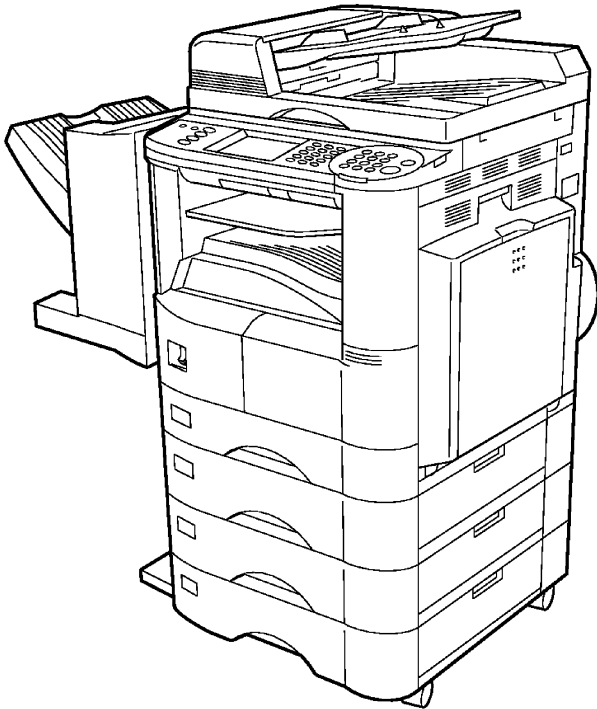


# Service Manual

Digital Copier


DP-2000/2500/3000



## WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

## IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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# 1 Specifications Table

## 1.1. Copy Function

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
Basic Specifications					
1 Type		Desktop			
2 Platen		Fixed			
3 Original Position		Left / Inner			
4 Recording Paper Path		Center			
5 Face Up / Face Down		Face Down			
6 Drum		Organic Photo Conductor (OPC)			
7 Copy Process		Dry Electrostatic System			
8 Developing Process		Magnetic Mono Component Development System			
9 Toner Recycle		No			
10 Fusing System		Heat & Pressure			
11 Max Original Size		Ledger (11" x 17") / A3 (297 x 420 mm)			
12 Paper Size					
	Paper Tray	LDR, LGL, LTR, LTR-R, INV, INV-R		For USA and Canada	
		A3, A4, A4-R, A5, A5-R, B4		For EU	
		A3, A4, A4-R, A5, B4, B5, B5-R		For Other Countries	
	Bypass	LDR, LGL, LTR, LTR-R, INV, INV-R		For USA and Canada	
		A3, A4, A4-R, A5, A5-R, B4		For EU	
		A3, A4, A4-R, A5, B4, B5, B5-R		For Other Countries	
Bypass Envelope		No			
13 Warm-up Time		Approx. 35 sec.		Approx. 45 sec.	68 °F (20 °C)
14 First Copy Time		4.5 sec.		3.8 sec.	From Platen/ Letter/ A4 Portrait/ 1st Paper Tray. Period between Start Key is pressed and Paper exit.
15 Copy Speed					
	Ledger / A3	14 cpm	16 cpm		
	Legal / B4, FLS	15 cpm	18 cpm		
	Letter-R / A4-R	18 cpm	21 cpm	26 cpm	
	LTR / A4	20 cpm	25 cpm	30 cpm	
	Invoice / A5	20 cpm	25 cpm	30 cpm	
16 Zoom					
	Enlargement	Selected Original size / Copy size			
	Reduction	Selected Original size / Copy size			
	Zoom	25 - 400%			1% Step

Items		Description			Remarks	
		DP-2000	DP-2500	DP-3000		
17 Paper Feed		Front loading universal Paper Tray				
	Paper Tray					
	Capacity	550 sheets x 1	550 sheets x 2		LTR / A4 : 20 lb (75 g/m2)	
	Auto Size Setting	No (Input from Control Panel)				
	Low Level Warning	Empty only				
	Bypass					
	Capacity	50 sheets			LTR / A4 : 20 lb (75 g/m2)	
	Auto Size Setting	Yes				
	Paper Capacity (Std. Configuration)	600 sheets	1,150 sheets			
	18 Multi Copy Range		999 sheets			
19 Gradation						
	Text	2 steps				
	Text / Photo	2 step error diffusion				
	Photo	256 steps				
20 Resolution		600 dpi			Scanning and Printing.	
21	Standard Sorting Memory size	0 MB	8 MB			
22 Standard Page Memory size		18 MB				
23 Exit Tray Capacity		Standard: 250 sheets Install Option (Upper / Lower bins : 250 sheets)				
24 Color		No				
25 Max Power Consumption		Less than 1.4 kW				
26 Dimensions						
	(W x D x H)	23.5 x 23.6 x 22.7 in (597 x 600 x 576 mm)	23.5 x 23.6 x 27.6 in (597 x 600 x 701 mm)		H: To Platen Glass.	
27 Projection area		Less than 3.85 ft / 0.358 m				
28 Occupancy area						
	(W x D)	37.1 X 23.6 in (942 x 600 mm)			Includes Bypass Paper Tray.	
29 Weight		108.1 lbs (49 kg)	121.3 lbs (55 kg)		Main Unit only.	
Options						
1	Paper Feed System	Max. 550 sheets x 4				
	550 sheets 2nd/ 4th Paper Feed Module	Yes			Motor is not mounted.	
	Paper Size Detection	Manual (Control Panel)				
	Low Level Paper Warning	Empty only				
	550 sheets 3rd Paper Feed Module	Yes			Motor is mounted.	
	Paper Size Detection	Manual (Control Panel)				
	Low Level Paper Warning	Empty only				
Max. Paper Capacity		2, 250 sheets			LTR / A4 : 20 lb (75 g/m2)	

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
2	Cabinet				
	Stand for 4-Paper Tray Configuration	Option			
	Stand for 3-Paper Tray Configuration	Option			
	Stand for 2-Paper Tray Configuration	Option			
	Stand for 1-Paper Tray Configuration	Option			For DP-2000 only
3	Platen Cover	Option		Option	For USA and Canada
		Standard			For EU and Other Countries
	Free Stop	Yes			From 30 to 70 degrees.
4	ADF				
	(Single side type)	Yes			
	Original Set	Face Up			
	Scanning Method	Sheet Through			
	Capacity (Original)	50 sheets (LTR / A4)			LTR / A4 : 20 lb (75 g/m2)
	SADF Mode	No	Yes		
	Free Stop	Yes			From 30 to 70 degrees.
5	Inverting ADF (i-ADF)				
	(Duplex Type)	Yes			
	Original Set	Face Up			
	Scanning Method	Sheet Through			
	Capacity (Original)	50 sheets (LTR / A4)			LTR / A4 : 20 lb (75 g/m2)
	SADF Mode	No	Yes		Available for single side scanning only.
	Free Stop	Yes			From 30 to 70 degrees.
6	Exit Tray (Inner)	Yes			
	Tray Position	Inner			
	Number of Bins	1			
	Face Up / Face Down	Face Down			
	Bin Capacity	Upper / Lower bins: 250 sheets			
	Multi Tray Function	Option (Inner 2-way)			Requires the Optional Dual Path Exit Guide Unit. Max. 3 way using Optional Exit Tray (Outer) or Finisher.
	Shift Tray Function	No			

Items	Description			Remarks
	DP-2000	DP-2500	DP-3000	
7 Finisher	Yes			Not available with Exit Tray (Outer). Requires the Optional Dual-Path Exit Guide Unit and Paper Transport Unit.
Tray Position	Outer			
Number of Bins	1			
Face Up / Face Down	Face Down			
Bin Capacity	1,000 sheets (LTR / A4)			
Multi Tray Function	Yes			Max. 3 way using Optional Exit Tray (Inner).
Shift Tray Function	Yes			
Shift width	0.79 in (20 mm)			
Staple Function	Yes			No Manual Stapling. Not available with Rotation. Not available with INV-R, A5-R or B5-R.
Stapler Capacity	3,000 pins			
Number of Staple possible	Max. 30 sheets / set			LTR / A4 : 30 sheets LGL : 20 sheets LDR : 15 sheets
Staple Position	Left / Upper (1 position)			
Punch Function	No			
8 Exit Tray (Outer)	Yes			Not available with Finisher. Requires the Optional Dual-Path Exit Guide Unit and Paper Transport Unit.
Tray Position	Outer			
Number of Bins	1			
Face Up / Face Down	Face Down			
Bin Capacity	250 sheets (LTR / A4)			
Multi Tray Function	Yes			Max. 3 way using Optional Exit Tray (Inner).
Shift Tray Function	No			
Shift width	-			
9 Dual-Path Exit Guide Unit	Yes			For Exit Tray (Inner or Outer), Finisher and duplex printing.
10 Paper Transport Unit	Yes			To be used for Exit Tray (Outer), Finisher and duplex printing.
11 Automatic Duplex Unit	Yes			Requires the Dual-Path Exit Guide Unit and Paper Transport Unit. Including 16 MB Image Memory Board.

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
12 Counter					
	Key Counter Capability	Yes			Only the Harness Kit is supplied as an option kit.
13 Dehumidifier		Option			Supplied as service part.
14 Electronic Sorting Board		Option (8MB)	Standard (8MB)		CODEC + 8MB memory
	Optional Image Memory 1 (8MB)	Yes			Only one of three available types can be installed.
	Optional Image Memory 2 (16MB)	Yes			
	Optional Image Memory 3 (128MB)	Yes			
Features					
1 Automatic Features					
	Auto Magnification Selection	Yes			
	Auto Paper Selection	Yes			
	Auto Density Control	Yes			
	Auto Paper Tray Selection	Yes			
	Auto Start	Yes			Reservation while Power On Initial
	Energy Saver Mode				
	Standby Mode	Yes			
	Energy Saver Mode	Yes			
	Sleep Mode	Yes			Turns Off the Heater Power.
	Power Consumption during Sleep Mode	1.8 wh		1.9 wh	115 VAC Power Supply
		2.9 wh			220 VAC Power Supply
	Remote Diagnostic	Yes (Fax only)			Requires the Fax Option.
	Machine Stop while Out of Toner	Yes (PPC function)			



Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
2	Additional Features				
	Low Level Paper Warning	Empty only			
	Photo Mode	Yes			256 steps
	Original Detection Release	Yes			No Original Detection Release Manual key. Available when using the Original Size key.
	Edit / Effects				
	Book Mode	Yes			
	Edge Mode	Yes			
	Margin Mode	Yes			
	X-Y Zoom	No	Yes		25 - 400%
	Page Numbering	No	Yes		Available only when using the ADF.
	Inverse Mode (Negative / Positive)	No			
	Centering Mode	No			
	Mirror Mode	No			
	Others (Inverting ADF & ADU)				Requires the Optional Inverting ADF and the DP-2000/2500 requires the Optional ADU.
	2-Page Copy Mode	Yes			LDR → LTR x 2 (A3 → A4 x 2, B4 → B5 x 2)
	2in1	Yes			
	1to2	No			
	4in1	No	Yes		
	1to4	No			
	Booklet Mode	No	Yes		Copy from 4 single-sided pages to 1 booklet mode sheet.
	Duplex Copy				DP-2000/2500 requires the Optional ADU.
	1→2	Option		Standard	
	2→1	Option			
	2→2	Option		Standard	
	Book→2				DP-2000/2500 requires the Optional ADU.
	Book Format	Option		Standard	
	Facing Pages	Option		Standard	
	Image Rotation (90 degrees)	Yes			
	Electronic Sorting	Yes			
	Rotation Sorting	Yes			
	Insertion Job				
	Cover Mode	No			
	Page Insertion Mode	No			
	OHP Interleave Mode	Yes			Non-copy / Copy
	Presentation Mode	No			

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
1	Department Counter	Yes (50 departments)			
	ADF (Optional)				
	Multi Size Feed	Yes			LDR and LTR, LGL and LTR-R
	SADF Mode	No	Yes		
	Original Counter	No			
	Job Memory	Yes (2)	Yes (5)		
	Job Time Display	No			
	Concurrent Copy	Yes			Can Reserve when printing PC / FAX data. Can NOT Reserve next copy while printing Copy data.
	User Mode	Yes			
	Interrupt	Yes			
	Electrical Counter	Yes			
	Sky Shot Mode	Yes			
	Check / Slip Mode	Yes (2)			
	Copy Account Display Mode	No			
	3	Control Panel			
2	Display	20 x 2 Alphanumeric LCD	Large Touch Panel LCD		
	Status Lamp	Yes			GREEN : Scanning / Printing RED : Alarm / Warning
	Key				
	Original Size	Yes			
	Copy Size	Yes			
	Keypad	Yes			
	Clear	Yes			
	Stop	Yes			
	Start	Yes			
	Energy Saver	Yes			
	Multi Size Feed	Yes			
	Sort / Finish	Yes			
	User Mode	Yes			
	Original Detection Release	No			
	Interrupt	Yes			
	Reset	Yes			
	One-Touch key	Yes (FAX Option)	No		
	Mode Change	Yes			Fax / PPC / Printer / Internet Fax Mode change.

Items		Description			Remarks	
		DP-2000	DP-2500	DP-3000		
	LCD Main Indication					
	Message Language (Default)	English			For USA and Canada	
		Specified Language			For EU and Other Countries	
	Message Languages Available		3			
	Original size / Image Indication		Yes (without Image)	Yes (with Image)		
	Paper size / Image Indication		Yes (without Image)	Yes (with Image)		
	Paper Tray Selection		Yes			
	Selected Paper Tray / Tray Status		Yes			
	Original Mode Selection		No (LED Indication)	Yes	Text / Text-Photo / Photo	
	Copy Density Selection		No (LED Indication)	Yes	7 Steps	
	Setting Confirmation		No	Yes		
	Zoom Magnification		Yes			
	Function Classification		No	Yes		
	Number of Copies		Yes			
	SADF / Multi Size Feed Mode		SADF: No Multi Size Feed Mode: Yes	Yes		
	Error Code		Yes			
	Finishing		No (LED Indication)	Yes		
	Warning Indicators					
		Add Toner	No (LED Indication)	Yes		
		Waste Toner Box Full	No			
Add Paper (No Paper)		No (LED Indication)	Yes			
Add Paper (Under 50 sheets)		No				
Paper Jam Indication		No (LED Indication)	Yes			

Items					Description			Remarks
					DP-2000	DP-2500	DP-3000	
			Paper Jam Location	No (LED Indication)	Yes			
			Service Alert Call	Yes				
			User Error	Yes				
			Machine Error	Yes				
			History of Jam Errors	No	Yes			
			Number of Jam Errors History	No	30			
4	Main Unit							
	Total Counter		Yes (Standard)			Mechanical Counter		
	Max. Weight of Documents on the Platen Glass		11 lb (5 kg)					
	ADF with Document Guide		Yes					
	Clip Pocket		No	Yes				
	Operating Instructions Pocket		No					
	Warning / Caution Label		Specified Language					
5	Optical System							
	Original Detection Method		Reflective Photo Sensor Type					
	Original Detection Size	LDR, LGL, LTR, LTR-R, INV, INV-R			For USA and Canada			
		A3, B4 (FLS), A4, A4-R, A5, A5-R			For EU			
		A3, B4, A4, A4-R, B5, B5-R			For Other Countries			
	Scanning Method		600 dpi CCD					
	Dehumidifier		Option			Supplied as a Service Part		
Mechanical Multi Copy Mode		No						
6	Process System							
	Type		Separate OPC Unit / Toner Unit Type					
	Toner							
		Toner Yield	18,000 pages / cartridge			LTR / A4 6% Image		
		Low Toner Level Sensor	Yes					
	Drum Life		30,000 pages / drum	45,000 pages / drum	LTR / A4			
	Developer Life		N/A					
	Waste Toner Box		Yes					
	Dehumidifier		Option			Supplied as a Service Part		
	Manual Add Toner		Yes			Toner Cartridge replacement		

Items			Description			Remarks	
			DP-2000	DP-2500	DP-3000		
7	Feeder System						
	Paper Tray (Standard / Option)						
		Paper Size setting method	Universal & Fixed by screw				
		Change Paper Size method	Set by Control Panel				
		Setting size	LDR, LGL, LTR, LTR-R, INV, INV-R			For USA and Canada	
			A3, B4, A4, A4-R, A5, 8"X13", 8.5"X13"			For EU	
			A3, B4, A4, A4-R, B5, B5-R			For Other Countries	
		Capacity	550 sheets			LTR / A4: 20 lb (75 g/m2)	
		Low Paper Level Warning	Empty only				
	Bypass						
		Capacity	50 sheets			LTR / A4: 20 lb (75 g/m2)	
		Paper Size setting method	Universal				
		Change Paper Size method	Auto				
		Paper Size Detection	LDR, LGL, LTR, LTR-R, INV, INV-R			For USA and Canada	
			A3, B4 (8"X13", 8.5"X13"), A4, A4-R			For EU	
			A3, B4, A4, A4-R, B5, B5-R			For Other Countries	
		Efficiency					
	1	Productivity					
			Warm-Up Time from Stand-by	Approx. 35 sec.			68 °F (20 °C)
			ADF Productivity (LTR / A4)				
ADF			100%				
			Inverting ADF	100%			
	ADU Copy Productivity (LTR / A4)					When exiting to Inner Tray	
		Transport Method		Stack less			
		1→2					
			1 copy	50%	41%		
			5 copies	72%	66%		
			10 copies	80%	71%		
		2→2					
			1 copy	45%	40%		
			5 copies	70%	62%		
			10 copies	78%	69%		
		PM Cycle					
1	PM Cycle						
	Major PM		120 k				
	Minor PM (Cleaning)		60 k				

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
Packing Configuration					
1	Packing Dimension	29.5 x 27.6 x 32.3 in (750 x 702 x 820 mm)	29.5 x 27.6 x 37.4 in (750 x 702 x 950 mm)		
2	Packing Weight	132.3 lb (60 kg)	154.3 lb (70 kg)		
3	Accessories				
	OPC unit	Yes			
	(Toner) Hopper Unit	No			
	Operating Instructions	Yes			
Power Supply					
1	Power Requirement	99 - 138 VAC 47 - 63 Hz Single phase			100 VAC Power Supply
		180 - 264 VAC 47 - 63 Hz Single phase			220 VAC Power Supply
2	Power Consumption	Less than 1500 W			
Ambient Conditions					
1	Temperature	50 - 80 °F / 10 - 30 °C			
2	Relative Humidity	30 - 80%			
3	Safety	UL1950 / CSA C22.2 No.950			For USA and Canada
		EN60950			For EU and Other Countries
4	Energy Saver	Energy Star Compliant			
5	EMI	Class A computing device in FCC Rules Part 15			

## 1.2. Fax, Printer and Internet Fax Functions

### 1.2.1. Fax Function

Items	Description			Remarks
	DP-2000	DP-2500	DP-3000	
Main Specifications				
1	Compatibility	G3		ITU-T Std & Non-Std (MGCS)
2	PSTN Line Port	Yes		Max. 2 Channels
3	Leased Line Port	No		
4	V.24 Line Port	No		
5	Modem Speed	33.6 - 2.4kbps		
6	Coding Scheme	JBIG/MMR/MR/MH		
7	ECM	Yes		Conforms to ITU-T
8	Short Protocol	Yes (B, D)		
9	Transmission Speed	Approx. 3 sec.		ITU-T Image No. 1 (A4, Std Resolution)
10	Communication Resolution (pels/mm x lines/mm)	Transmission Std        8 x 3.85 Fine       8 x 7.7 S-Fine     8 x 15.4 16 x 15.4 Reception Std        8 x 3.85 Fine       8 x 7.7 S-Fine     8 x 15.4 16 x 15.4		
Scanner Mechanism				
1	Scanning Device	CCD (ADF / Platen)		
2	Scanning Speed			
3	S-Fine        :F16 x 15.4	Less than 2.0 sec.		A4 vertical direction
		Less than 1.4 sec.		A4 horizontal direction
4	Fine            :F8 x 7.7	Less than 1.0 sec.		A4 vertical direction
		Less than 0.7 sec.		A4 horizontal direction
5	Std             :F8 x 3.85	Less than 1.0 sec.		A4 vertical direction
		Less than 0.7 sec.		A4 horizontal direction
6	Scanning Resolution (pel/mm x lines/mm)	Std        8 x 3.85 Fine       8 x 7.7 S-Fine     8 x 15.4 16 x 15.4		
7	Document Size (Max.)	ADF: Max. A3		
8	Effective Scanning Width	LDR (11.5") / A3 (292 mm)		
9	A3 size TX/RX	Yes		Conforms to ITU-T A3
10	Reduction XMT	Yes		A3 to B4 / A3 to A4 / B4 to A4
11	ADF Capacity	50 sheets		Face-Up, feed from top page LTR / A4 (17 lb / 64 g/m2)
12	Collation Stack	Yes (Face Down)		
Printer Mechanism				
1	Recording Method	LP		

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
2	Recording Speed	20 ppm (A4 horizontal)	25 ppm (A4 horizontal)	30 ppm (A4 horizontal)	
3	Recording Resolution Fax	406 x 391 dpi			
4	Recording Paper Size	Ledger / Legal / Letter / A3 / B4 / A4 / A5			Invoice : Not supported. Ledger size is transmitted as A3 size for N. American model. If A3 is received, approx. 1" of image on both edges are not printed on Ledger size paper.
5	Effective Printing Width	11.4" (289 mm)			Conforms to ITU-T A3
6	Recording Paper Capacity	550 sheets	1,100 sheets		Optional max. 2200 sheets LTR / A4 : 20 lb (75 g/m2)
7	Collation Stack	Yes (Face Down)			
8	Consumable	Toner Cartridge / OPC Drum			
Fax Memory					
1	Standard Memory	2 MB (120 pages)			Flash ROM, ITU-T Image No.1 (A4, Std Resolution)
2	ITU-T #1/standard result				
3	Optional Memory	4 MB 8 MB			
Dual Operation					
1	Multi Task Operation	Yes			
2	Direct XMT Reserve	Yes			
3	Memory XMT Reserve	Yes			
4	Number of Memory Job Files	Yes (Max. 50 files)			
Dialing/Telephone Features					
1	Auto Dialers	200			
2	Phone Book Directory Search Dialing	Yes			
3	Total Auto Dialers	200			
4	Program Dials	5	12		
5	Max. Tel Number Digits	36	36		
6	Max. Station Name Characters	15			
7	Full Number Dialing (Buffered Dialing)	Yes			Max.70 stations
8	Direct Dialing (Monitor Dialing)	Yes			Voice mode
9	Automatic Redialing	Yes			
10	Manual Redialing	Yes			
11	Line Monitor Speaker	Yes			Available for Line-1 only
12	Chain Dialing (Hybrid Dial)	Yes			In Monitor Dialing mode only
13	Pulse / Tone Dialing	Yes			10 pps / DTMF
14	Pulse to Tone Change	Yes			
15	Flash Key	Yes			
16	Handset	Option			



Items	Description			Remarks
	DP-2000	DP-2500	DP-3000	
Transmission Features				
1	Direct Transmission	Yes		
2	Memory Transmission	Yes		Page Retransmission
3	Quick Memory Transmission	Yes		
4	Multi-Station Transmission (Sequential Broadcasting)	Yes		Max. 270 stations
5	Direct Deferred Transmission	No		ADF Deferred Transmission
6	Deferred Transmission	Yes		Max. 50 timers
7	Deferred Multi-Station Transmission	Yes		
8	Priority Direct Transmission	Yes		Priority ADF Transmission
9	Priority Memory Transmission	No		
10	Batch Transmission	Yes		Real Time (up to 5 Files)
11	90 Degree Rotation Transmission	Yes		
12	Cover Sheet	Yes		
13	Confidential Mail Box	Yes		20 Mailboxes
14	Multi-Copy Transmission	No		
15	Memory Back-Up	Yes		FAX : Back-up with Flash Memory. Copy / Printer : No Back-up with D-RAM
16	Duplex Scanning	Yes		With Optional Inverting ADF (i-ADF)
Reception Features				
1	Substitute Reception	Yes		
2	Fixed Reduction	Yes		LTR/A4/LGL: 70 - 100% (in 1% Steps), Top & Left Alignment
3	Auto Reduction	Yes		LTR/A4/LGL: 70 - 100% (in 1% Steps), Top & Left Alignment
4	Overlap Printing	Yes		Page End Approx. 0.51 in (13 mm)
5	Receive to Memory	Yes		
6	Distinctive Ring Detector (DRD)	Yes		
7	90 Degree Rotation Reception	Yes		
8	Duplex Printing	Yes		DP-2000/2500 requires the Optional ADU.

Items	Description			Remarks
	DP-2000	DP-2500	DP-3000	
Polling				
1 Polling	Yes			
2 Turnaround Polling	No			
3 Multi-Station Polling	Yes			Max. 270 stations
4 Deferred Polling	Yes			Max. 50 timers
5 Deferred Multi-Station Polling	Yes			Max. 50 timers / 270 stations
6 Direct Polling Tx	No			
7 Memory Polling Tx	Yes			1 File
8 Preset Polling Password	Yes			
9 Temporary Polling Password	Yes			
10 Continuous Polling	No			
Convenience				
1 Panel Display	20 x 2 Alphanumeric LCD	7.5" Touch Panel Display		
2 Voice Contact	No			
3 Edit File Mode	Yes			With View Mode
4 Incomplete File Save	Yes			With View Mode
5 Automatic Cover Sheet	Yes			
Certainty				
1 Verification Stamp	Yes			
2 Header / Total Page Print	Yes			
3 Transaction Journal	Yes			100 Transactions / with View Mode
4 Comm. Journal	Yes			With Image Data
5 Last Ind. XMT Journal	Yes			
List Printouts				
1 One-Touch List	Yes	No		
2 ABBR. No. List	Yes	No		
3 Program List	Yes			
4 Phone Book Search List	Yes			Auto Dialer List
5 Fax Parameter List	Yes			
6 File List	Yes			With View Mode
7 Ind. XMT Journal	Yes			
8 Directory Sheet	Yes	No		
Identifications				
1 Logo	Yes			25 Characters
2 Multiple Logo	No			
3 Character ID	Yes			16 Characters
4 Numeric ID	Yes			20 Digits
Special Communications				
1 Password XMT / RCV	Yes			
2 Selective Reception	Yes			TSI Check
3 Relay XMT Request	No			
4 Relay XMT Center	No			

Items		Description			Remarks
		DP-2000	DP-2500	DP-3000	
5	Confidential XMT / Polling	No			
6	Confidential Center	No			
7	Mailbox XMT / Polling	Yes			
8	Mailbox Center	Yes			Max. 20 Mailboxes
9	File XMT	No			
10	Fax Forward	No			Received File Transfer
11	Sub-Address XMT	Yes			T. Routing
12	Sub-address RCV	Yes			
13	OMR-XMT	No			
Standards					
1	PSTN	FCC Part 68: 1997 / Industry Canada No. CS-03: Issue 8 1996			
Others					
1	Fax Access Code	Yes			For U.S.A/Canada; DP-2500 with v2.x Firmware
		Yes	No		For Other Countries
2	PIN Code Access	Yes			For U.S.A/Canada only; DP-2500 with v2.x Firmware
3	Intelligent Redial (A-1)	Yes			4 Files
4	Department Code	Yes			50 Codes
5	Power Saver Mode	Yes			
6	Self Diagnostic Function	Yes			
7	Remote Diagnostic Function	Yes			
8	Check & Call Function	Yes			
9	V.24 / Encryption Interface	No			

### 1.2.2. Printer Function

Items		Description	Remarks	
		DP-2000/2500/3000		
Interface				
1	Centronics Parallel I/F (IEEE-1284)	Centronics Parallel Interface	ECP	
	LAN (Network)	Ethernet 10Base-T/ 100Base-TX	Requires the Optional Internet Fax Kit.	
	USB Port	No		
	IEEE-1394	No		
Printer Function				
1	Printing Size	Ledger, Legal, Letter, Invoice, A3, A4, A4-R, A5, A5-R, B4		
	Bypass	Yes		
	Stapling	Yes		
	Printing Resolution	600 dpi		
	Interface	Centronics Parallel Interface/ Ethernet		
	OS	Win 95 / Win 98 / Win Me / Win NT 4.0 / Win 2000		
	GDI	Yes		
	PDL (PCL6)	Yes	Requires Optional PCL6 Emulation Kit.	
	PDL (PSII)	No		
	Duplex Printing	Yes	DP-2000/2500 requires the Optional ADU.	
	Collation Stack	Yes		
	Status Monitor	Yes	Win 95 / Win 98 / Win Me / Win NT 4.0 / Win 2000 : Local Connection	
	Network Printing	Yes	Requires the Optional Internet Fax Kit.	
	Network Status Monitor	No		
	Smoothing	No		
	Applicable PC	IBM PC, AT or Compatible		
	Multi-Task Operation			
		Printing while Fax-XMT from Memory	Yes	
		Printing while Fax-RCV into Memory	Yes	
		Fax-XMT from Memory while Printing	Yes	
Fax-RCV into Memory while Printing		Yes		
18	Output to separate tray for Printing, Fax, Copy	Yes		
	Font	Yes	Requires Optional PCL6 Emulation Kit.	
	Security Print	Yes	Password Print with Optional F-ROM Card	

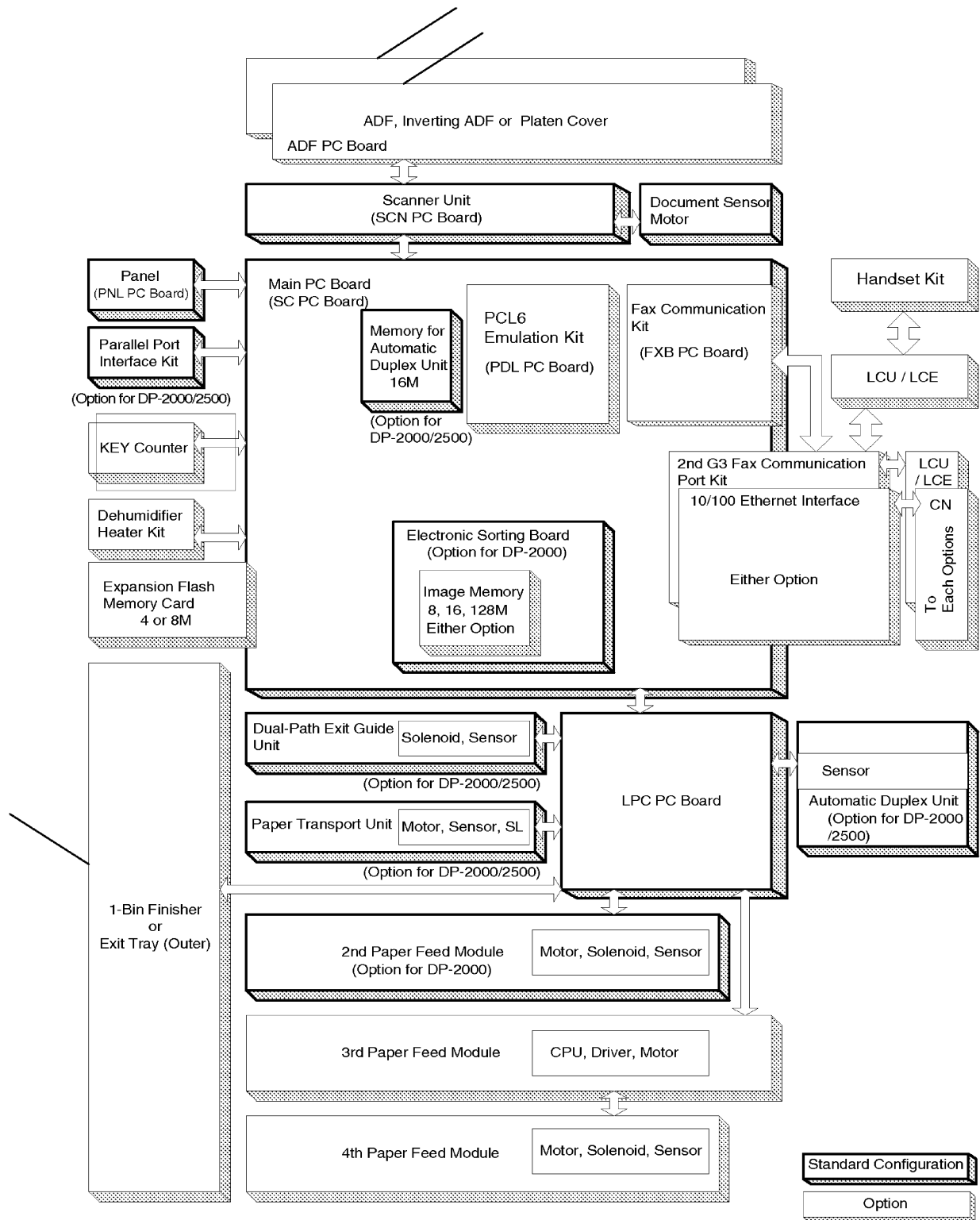
Items		Description	Remarks
		DP-2000/2500/3000	
Scanning Function			
1	Halftone	256 Halftone shades, Gray Scale (Local Connection)	LAN : 256 Halftone shades with Error Diffusion. Requires the Optional Internet Fax Kit.
2	Max. Document Size	Ledger	
3	Scanning Resolution	600 dpi (Max)	Selectable, 600 dpi Optical Scanner, LAN: 400 dpi (Max.)
4	Driver	TWAIN	
5	2-Sided Scanning	No	

### 1.2.3. Internet Fax Function

Items		Description	Remarks	
		DP-2000/2500/3000		
Main Specifications				
	1	Communication Protocols	TCP / IP	SMTP / MIME
	2	Max. Modem Speed	NA	
	3	Coding Scheme	MH / MMR	400 dpi : MMR only
	4	ECM	No	
	5	Line Interface	RJ-45 (Ethernet)	Ethernet LAN
Scanner Mechanism				
	1	Max. Document Size	LDR / A3	
	2	Effective Scanning Width	11.4" (289 mm)	
	3	Scanning Resolution (pel/mm x lines/mm)	8 x 3.85	LAN: 400 dpi Scanning Resolution is available with Parameter setting.
			8 x 7.7	
8 x 15.4				
16 x 15.4				
Printer Mechanism				
	1	Printing Resolution	600 dpi	FAX : 406 x 391 dpi Network Printer : 600 dpi
	2	Effective Recording Width	11.4" (289 mm)	
Transmission Features				
	1	Multi-Task Operation	Yes	Simultaneous operation of G3 Fax and LAN is available.
	2	Memory Transmission	Yes	
	3	Sequential Multi-Station Transmission	No	
	4	Simultaneous Multi-Station Transmission	Yes	Max. 270 stations
	5	Sender Selection	Yes	
	6	G3 / Email Mixed Broadcasting	Yes	
	7	Deferred Transmission	Yes	
	8	Fax Forward	Yes	Received File Transfer, only with I-FAX Option
	9	Sub-address RCV	Yes	Inbound Routing, only with I-FAX Option
	10	Mail Header		
	Email Header Print Selection	Yes	All or From / To / Subject only	
	Subject Line	Random Entry		
LAN Features				
	1	Internet Fax Communication	Yes	A3 Communication is available with Parameter setting.
	2	Internet Mail Reception	Yes	

Items		Description	Remarks
		DP-2000/2500/3000	
3	Internet Fax Server Features		
	Internet Fax Relay XMT	Yes	iFAX → iFAX → G3FAX
	Email Relay MXT	Yes	PC → iFAX → G3FAX
	Received Fax / Email Forward	Yes	Local print available
	PC to FAX Transmission	No	
	Inbound Routing	Yes	Using Sub-Address. Local print available
	Phone Book Registration from PC	Yes	Via Email
4	I-Fax Parameters Registration via Email	Yes	
5	Internet Delivery Confirmation	Yes	Its own mode
6	Network Scanning	Yes (400 dpi)	400 dpi (Default / Max.). 600 dpi is not available. Network Scanning mode can be selected during setup.
7	Network Printing		
	LPR / LPD	Yes (600 dpi)	
	GDI	Yes	Parallel Port is not available when connected to the LAN.
	PDL	Yes	Requires Optional PCL6 Emulation Kit.
8	DHCP Client	No	
<b>Certainty</b>			
1	Comm. Journal (w / Image)	Yes	Email from RCV side to Panafax I-Fax's only.
<b>ID</b>			
1	Email Address	Yes	

### 1.3. System Combination



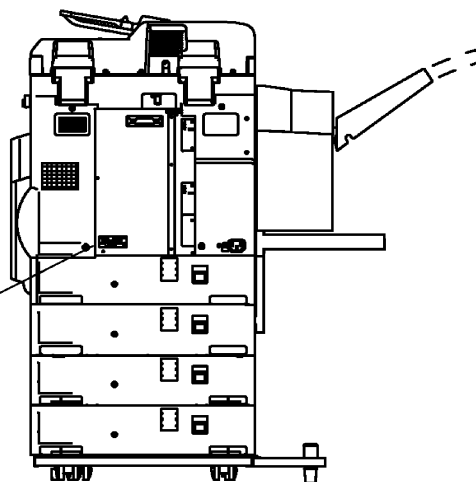


## 1.4. Options List

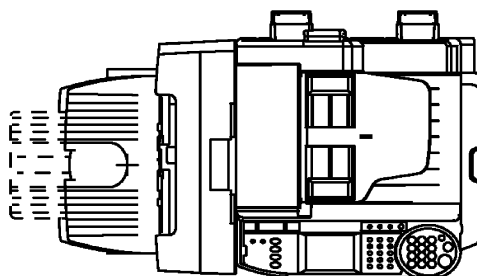
Option Name	Option Number	Remark
Electronic Sorting Board	DA-ES200	For DP-2000 only
Fax Communication Kit	DA-FG230	Available in certain countries
2nd G3 Fax Communication Port Kit	DA-FG231	Available in certain countries
10/100 Ethernet Interface	DA-NE200	Available in certain countries
Handset Kit	UE-403171-AU	For U.S.A/Canada
	UE-403172	For Other Countries
Parallel Port Interface Kit	DA-PC200	For DP-2000/2500 only
PCL6 Emulation Kit	DA-PC210	
Image Memory (8MB)	DA-SM08B	
Image Memory (16MB)	DA-SM16B	
Image Memory (128MB)	DA-SM28B	
Expansion Flash Memory Card, 4MB	UE-410047	Available in certain countries
Expansion Flash Memory Card, 8MB	UE-410048	Available in certain countries
Platen Cover	DA-UC200	
Automatic Document Feeder	DA-AS200	
Inverting Automatic Document Feeder	DA-AR250	
2nd/4th Paper Feed Module	DA-DS200	
3rd Paper Feed Module	DA-DS210	
Dual-Path Exit Guide Unit	DA-FK200	For DP-2000/2500 only
Paper Transport Unit	DA-FK210	For DP-2000/2500 only
Automatic Duplex Unit	DA-MD200	For DP-2000/2500 only
Exit Tray (Inner)	DA-XN200	
Exit Tray (Outer)	DA-XT200	
Stand for 1-Paper Tray Configuration	DA-DA200	Available in certain countries
Stand for 2-Paper Tray Configuration	DA-DA210	Available in certain countries
Stand for 3-Paper Tray Configuration	DA-DA220	Available in certain countries
Stand for 4-Paper Tray Configuration	DA-DA230	Available in certain countries
Plain Cabinet	DA-DE200	For USA only
Plain Stand	DA-D250	For USA only
Base Plate with Casters	DA-D200	For USA only
1-Bin Finisher	DA-FS200	USA/Canada : For DP-2000/2500/3000 Other countries : For DP-2000/2500
1-Bin Finisher	DA-FS205	Other countries, except USA/Canada : For DP-3000 only
Key Counter Cable Kit	DA-KH200	

## 1.5. External View

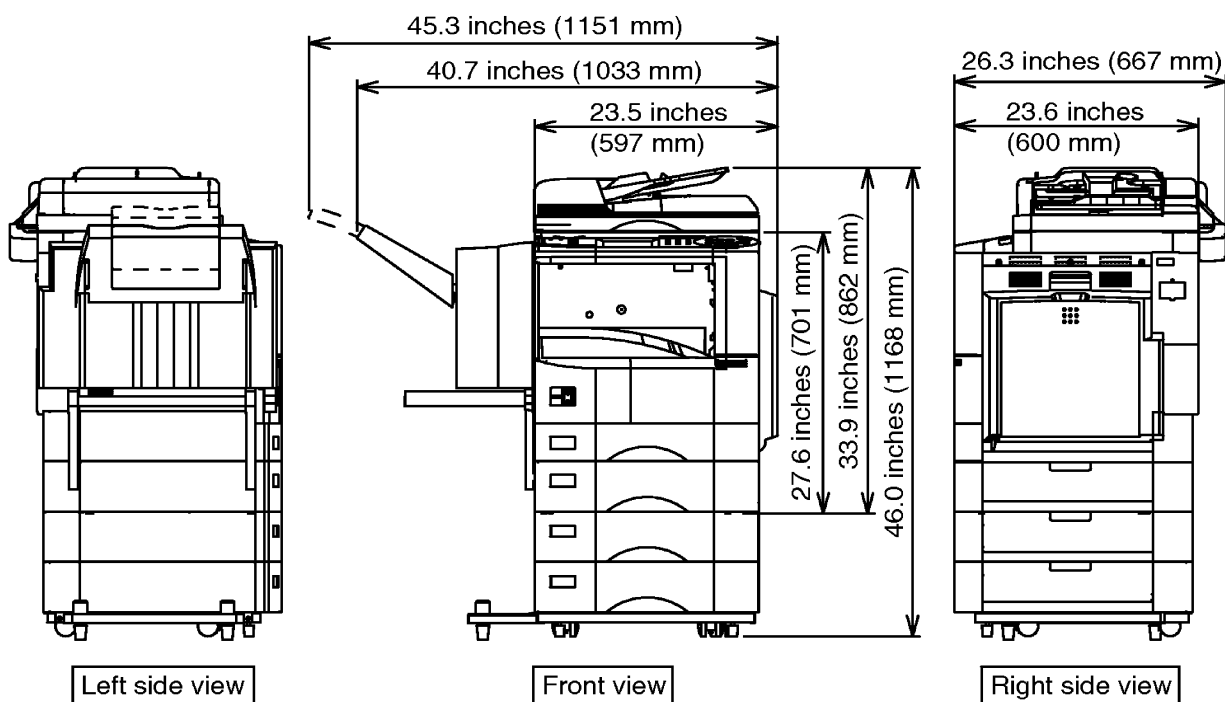
For Serial Number contents,  
see Sect. 1.5.1.



Rear view



Top view



Left side view

Front view

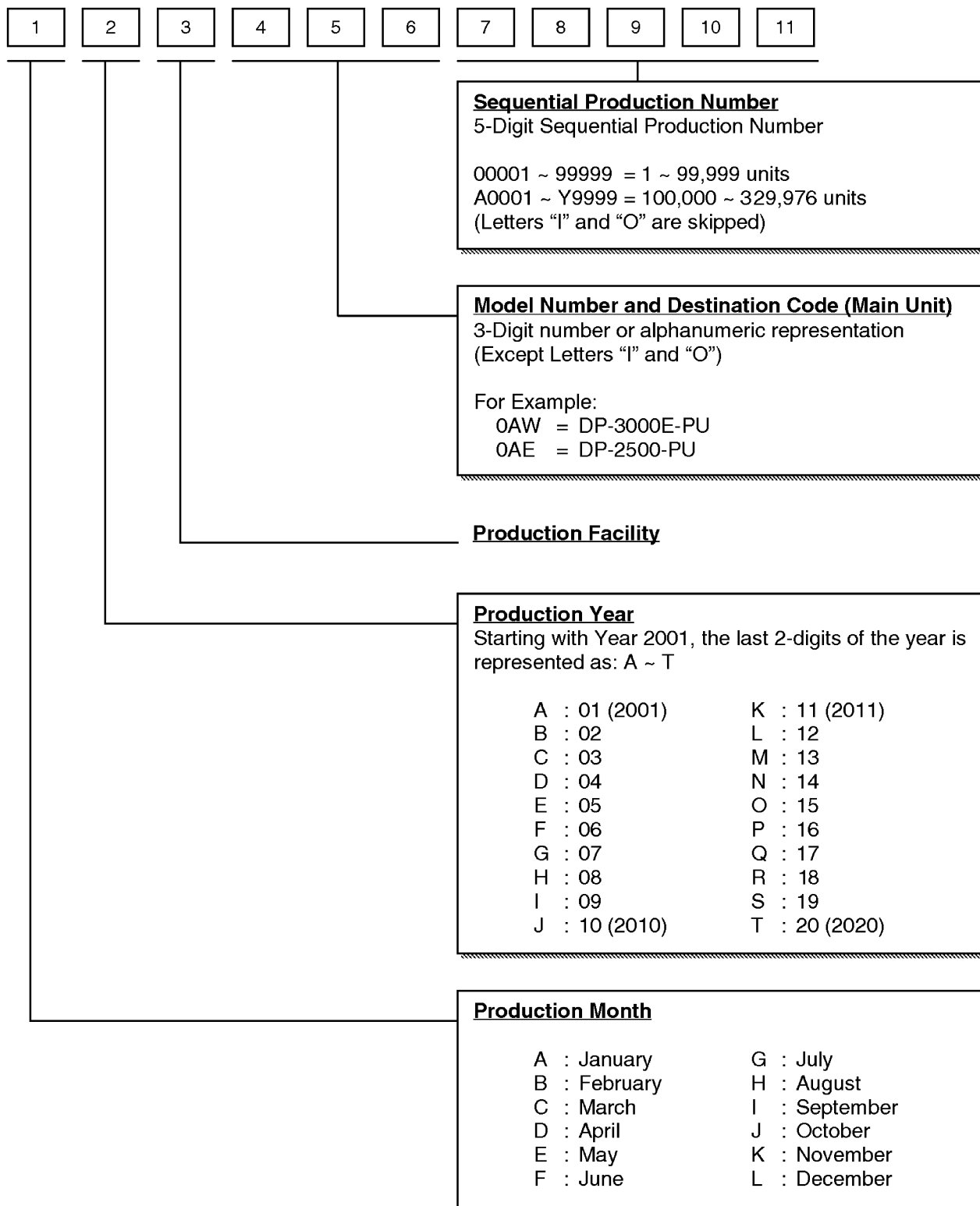
Right side view

### 1.5.1. Serial Number Contents

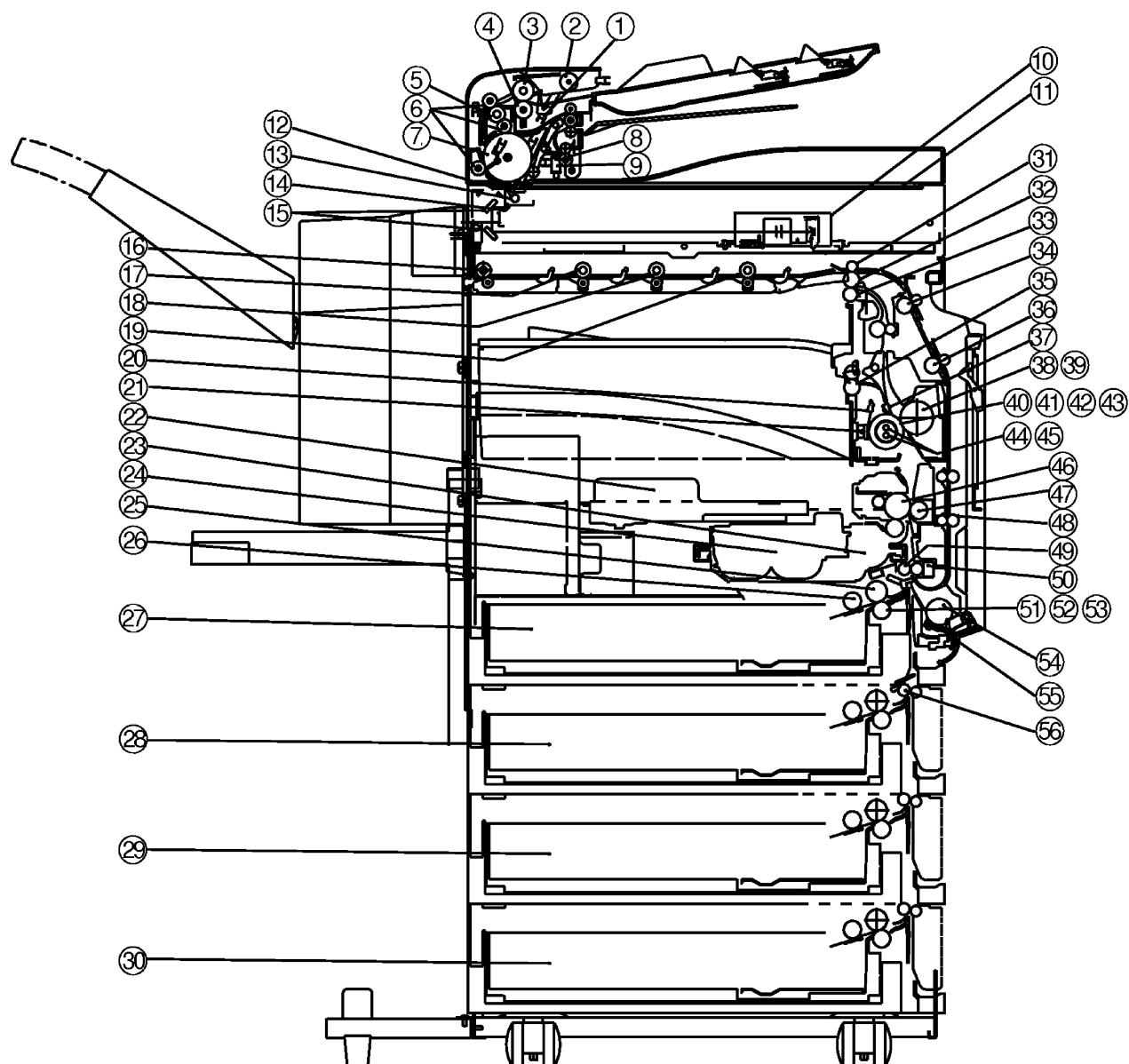
All units manufactured beginning in April 2001\* will utilize this New Serial Number format. The contents of the 11-digit Serial Number is as follows:

**Note:**

Models DP-2000P/2500E/2500P/3000E will utilize this format starting with March 2001 production.



## 1.6. Assembling Figure



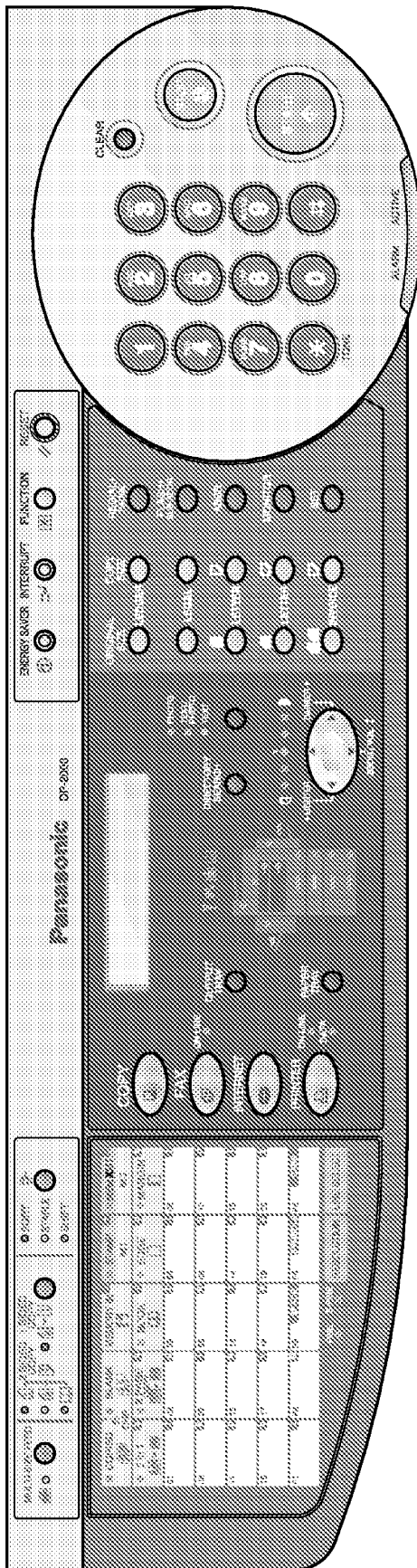
### 1.6.1. Assembling Figure Part Reference Numbers

No.	Part Name	No.	Part Name
1	Actuator 1 (1836)	29	3rd Paper Tray
2	Roller, Pre-Feed (1731)	30	4th Paper Tray
3	Roller, ADF (1728)	31	Roller, Pinch (1518)
4	Roller, Separation (1740)	32	Roller, Feed (1510)
5	Roller, Drive (1872)	33	Roller, Idle (1511)
6	Roller, Pinch (1838)	34	Roller, Drive 2 (1410)
7	Roller, Feed 2 (1753)	35	Roller, Feed (1510)
8	Roller, Exit (1751)	36	Roller, Drive 2 (1410)
9	Stamp Unit	37	Separation (1047)
10	CCD Assembly (207)	38	Roller, Pressure (1027)
11	Glass Assembly (557)	39	Bearing (1039)
12	Glass S (559)	40	Roller, Fuser (1026)
13	Lamp, Xenon (204)	41	Bushing, Insulation (1006)
14	Mirror 1 (264)	42	Bearing (1046)
15	Mirror 2 (265)	43	Gear, E40 Heat Roller (1014)
16	Roller, Drive (1314)	44	Lamp, Fuser (850W) (1043)
17	Roller, Drive (1314)	45	Lamp, Fuser (400W) (1044)
18	Roller, Drive (1314)	46	Drum, OPC (718)
19	Roller, Drive (1314)	47	Roller, Bias Transfer (1221)
20	Thermistor Assembly1, 2 (1041, 1042)	48	Roller, Drive (1409)
21	Thermostat (1038)	49	Roller, Timing Pinch (1222)
22	LSU (1124)	50	Cleaner, Roller (1229)
23	Process Assembly (785)	51	Roller, C25 Gear (1145)
24	Toner Cartridge	52	Clutch, Reverse (1132)
25	Roller, Paper Feed (1144)	53	Spring, A (1146)
26	Roller, C25 Gear (1145)	54	Roller, Feed (1244)
27	1st Paper Tray	55	Pad, Separator Holder (1242)
28	2nd Paper Tray	56	Roller, Intermediate (3106)

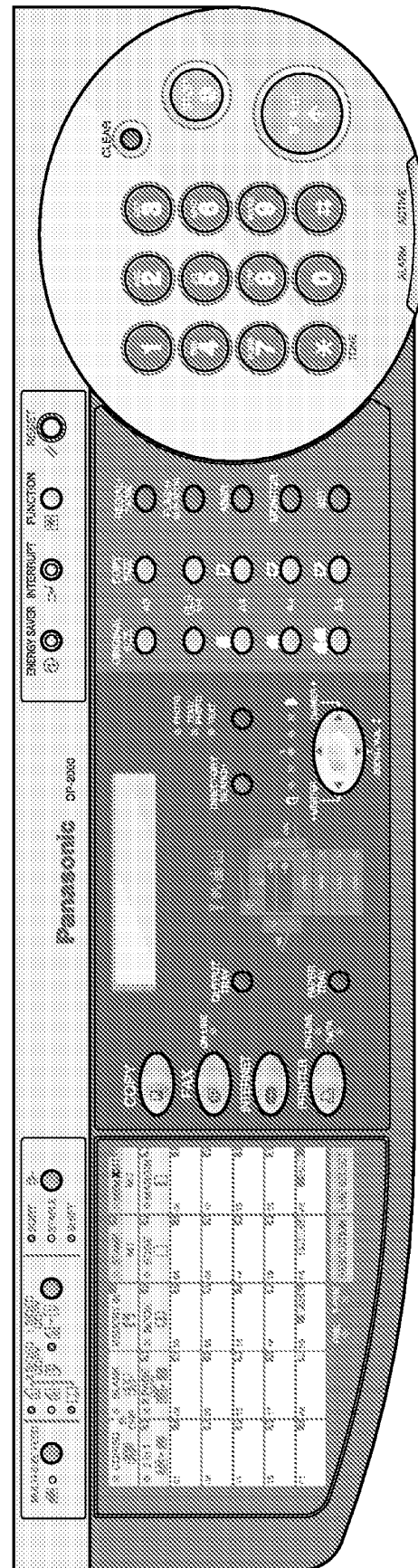
## 1.7. Control Panel

For DP-2000

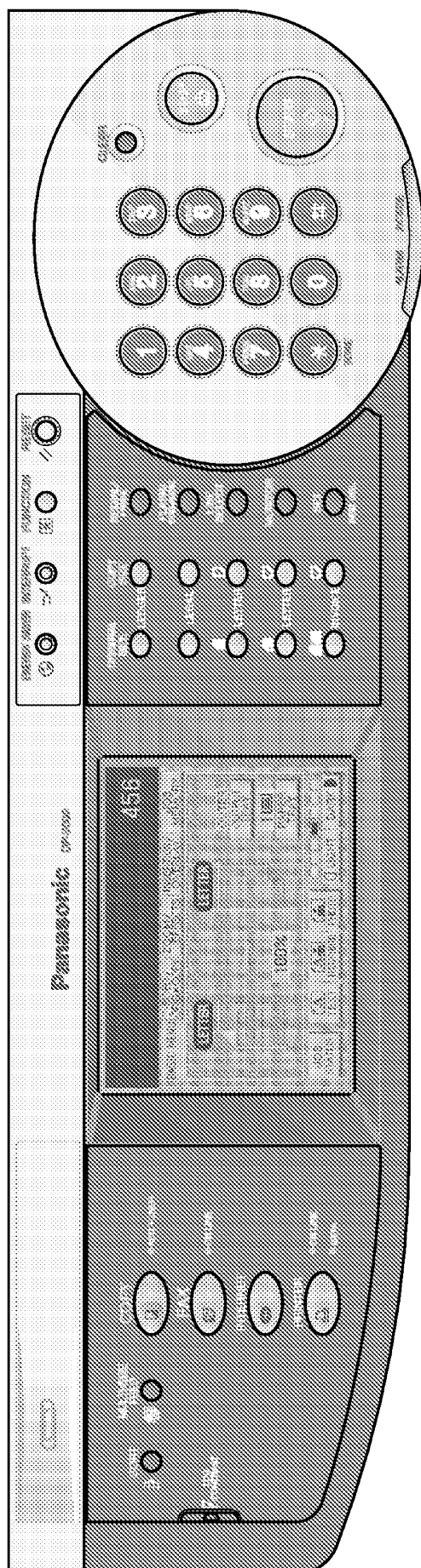
For USA/Canada



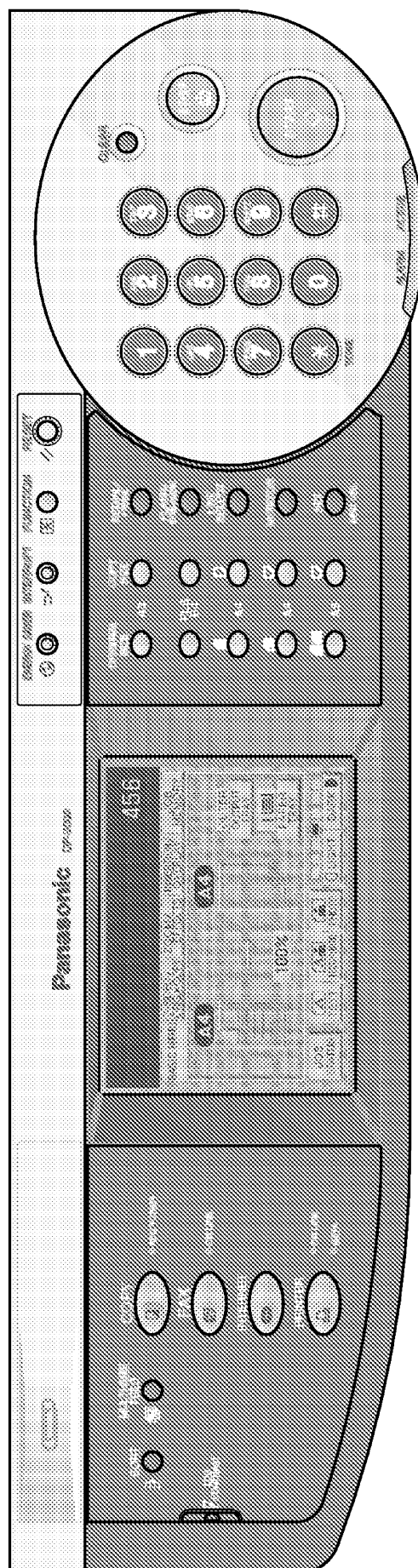
For Other Countries



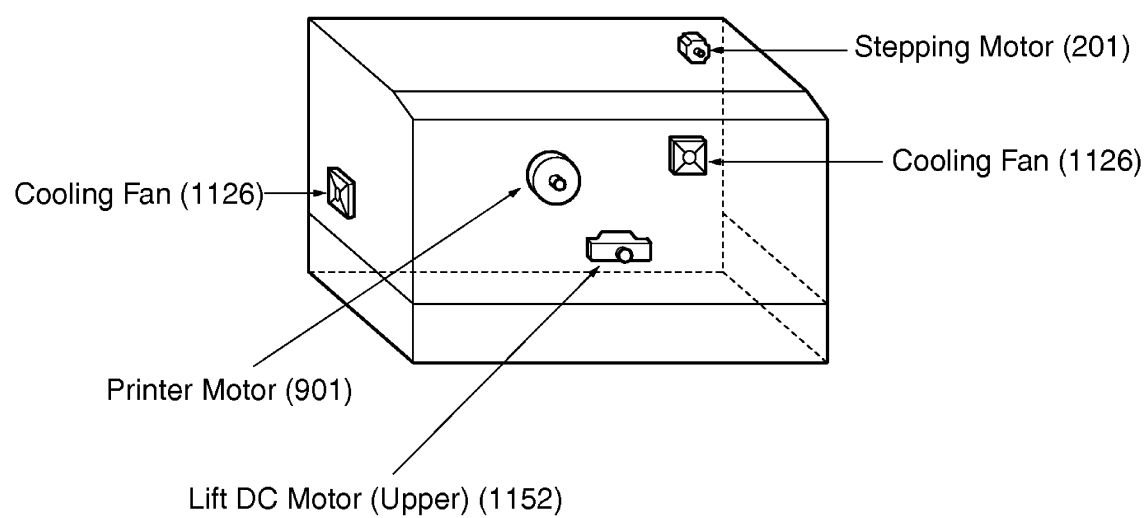
For USA/Canada



## For Other Countries



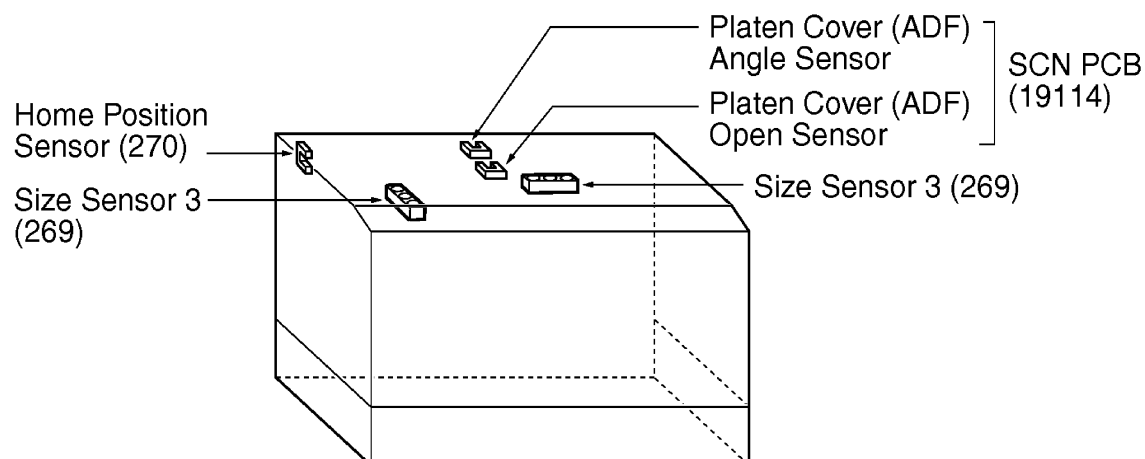
## 1.8. Fans and Motors



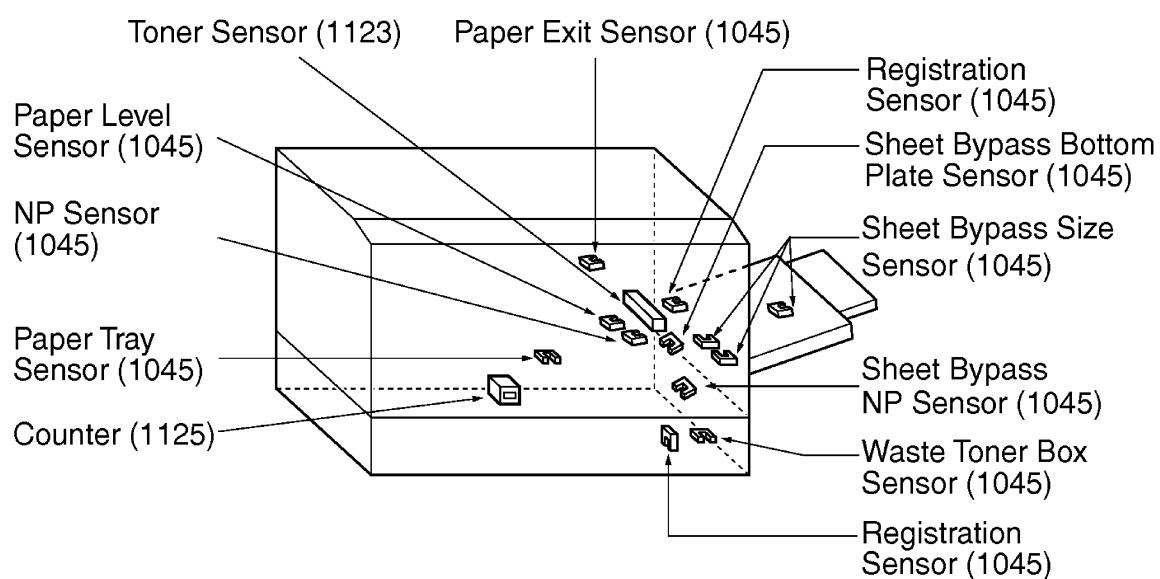


## 1.9. Sensors

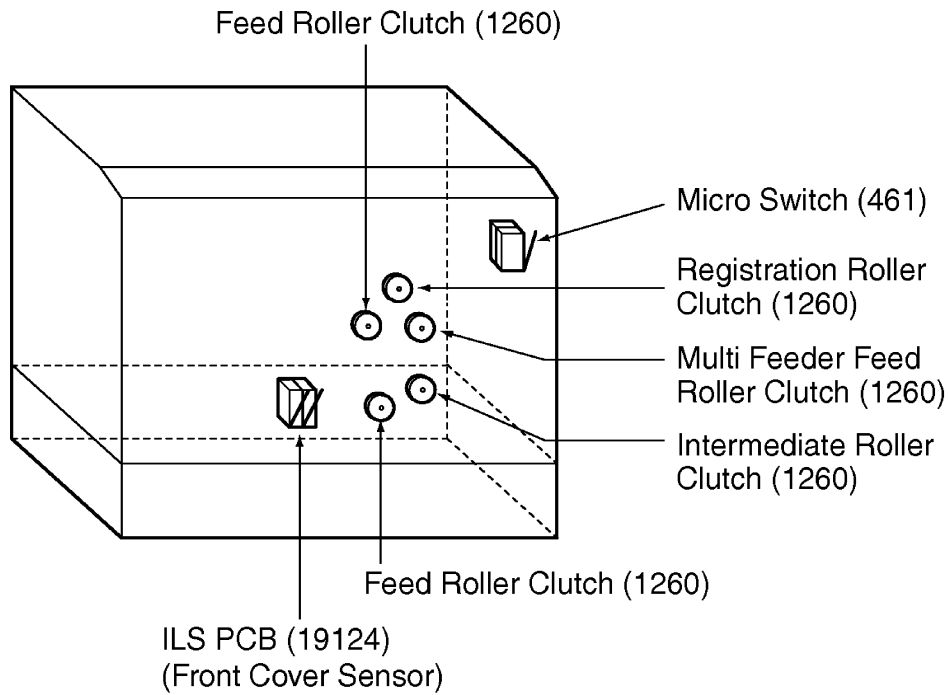
### 1. Scanner



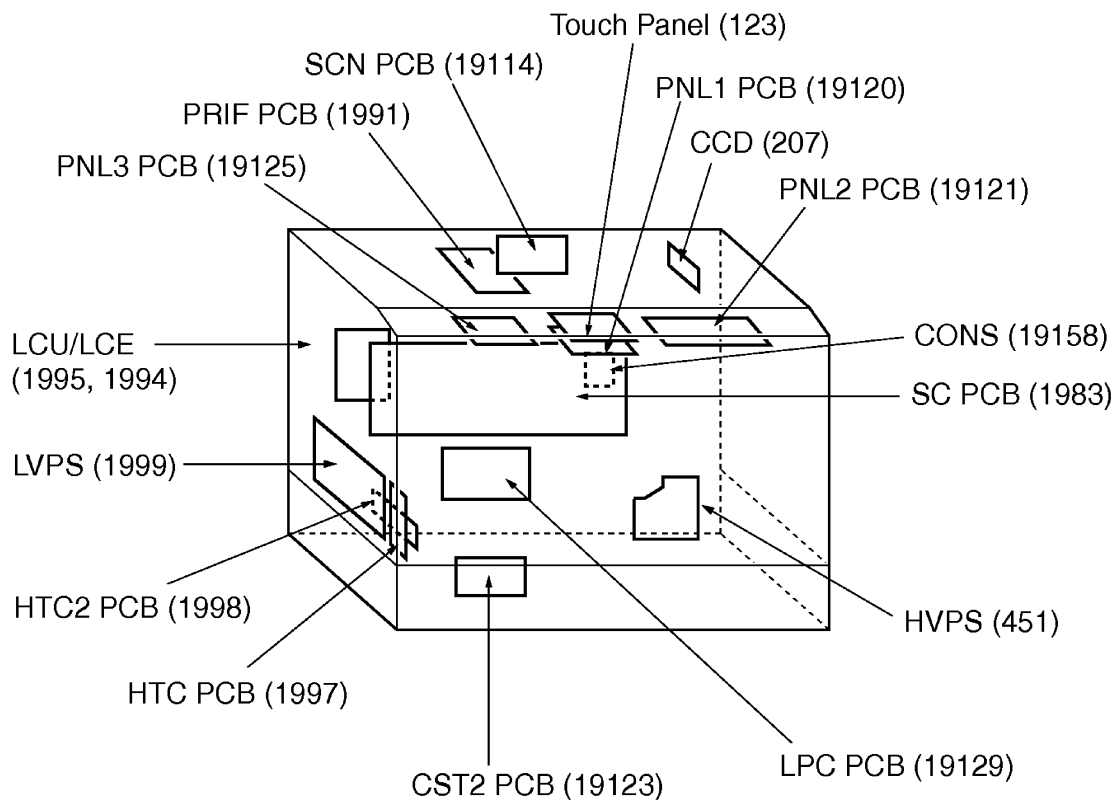
### 2. Printer



## 1.10. Clutches and Switches



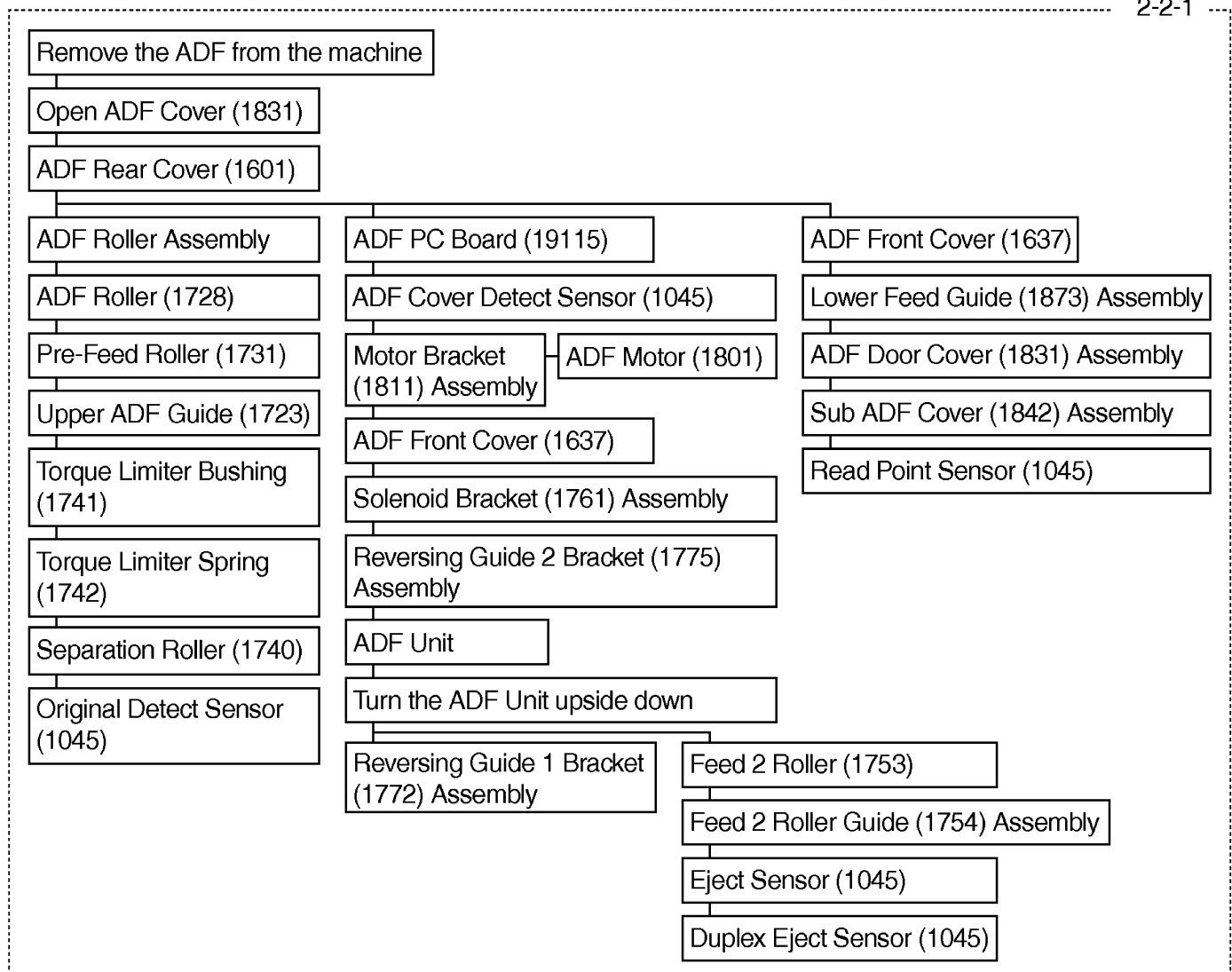
## 1.11. PC Boards

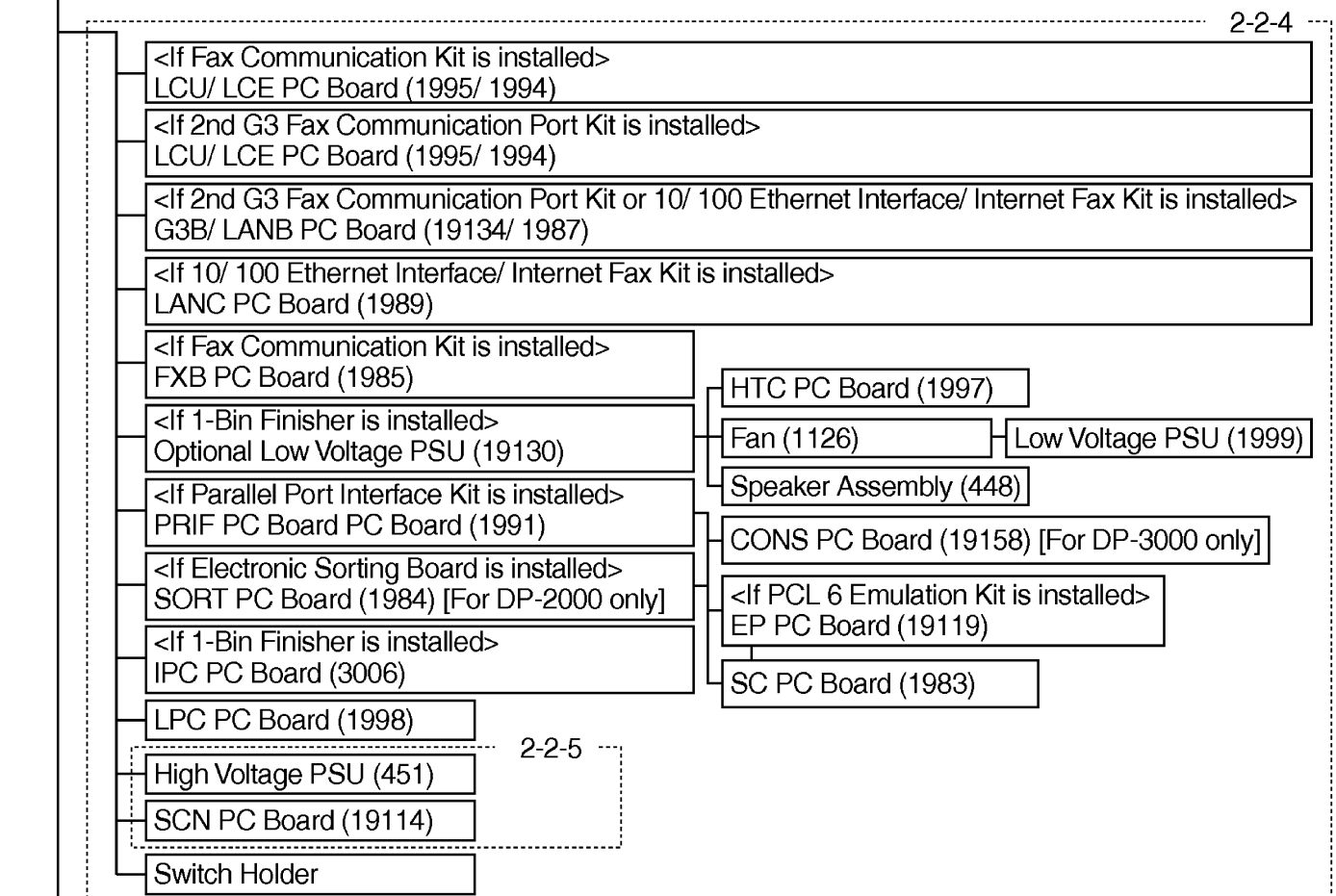
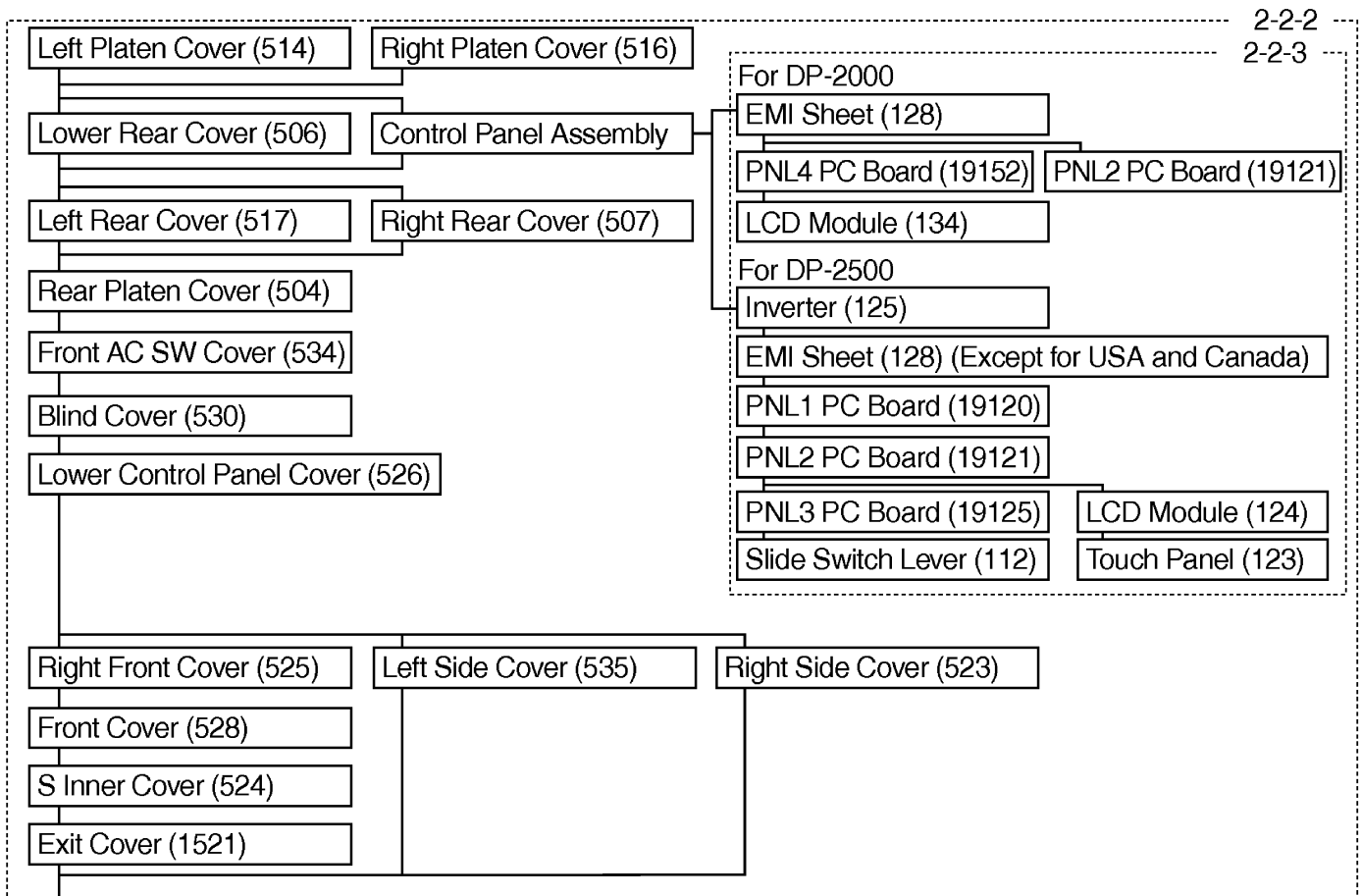


## 2 Disassembly Instructions

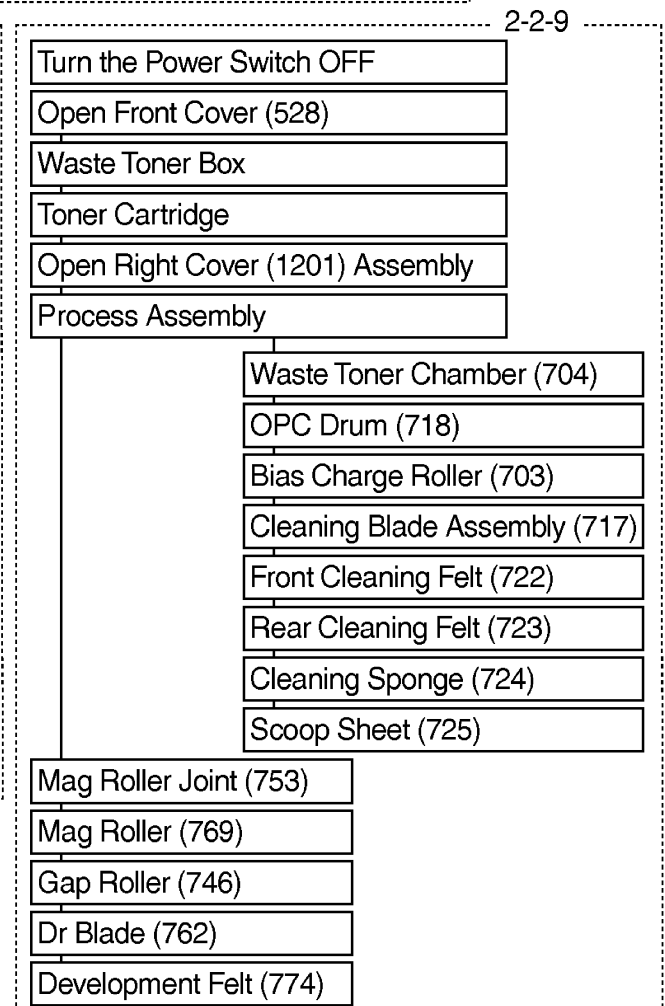
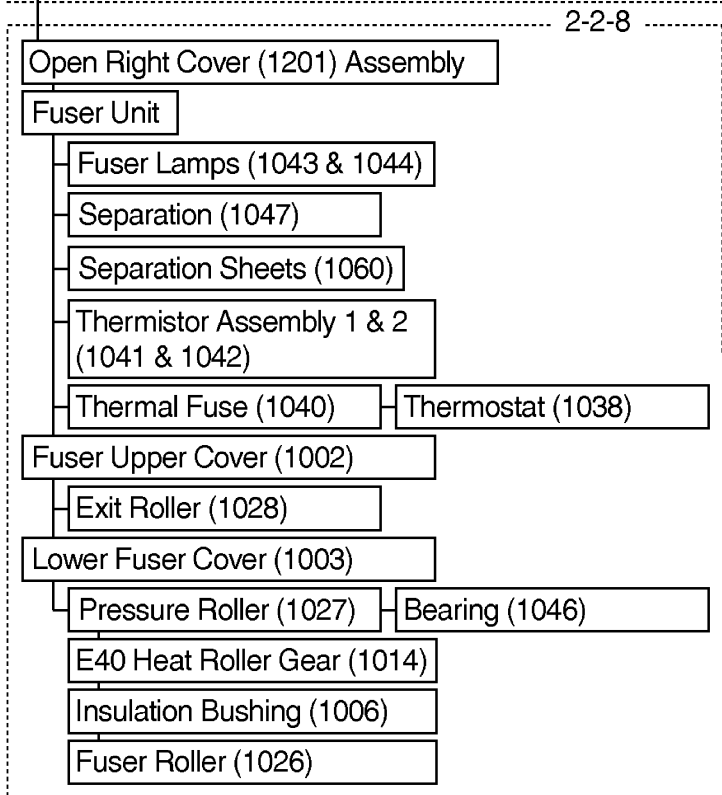
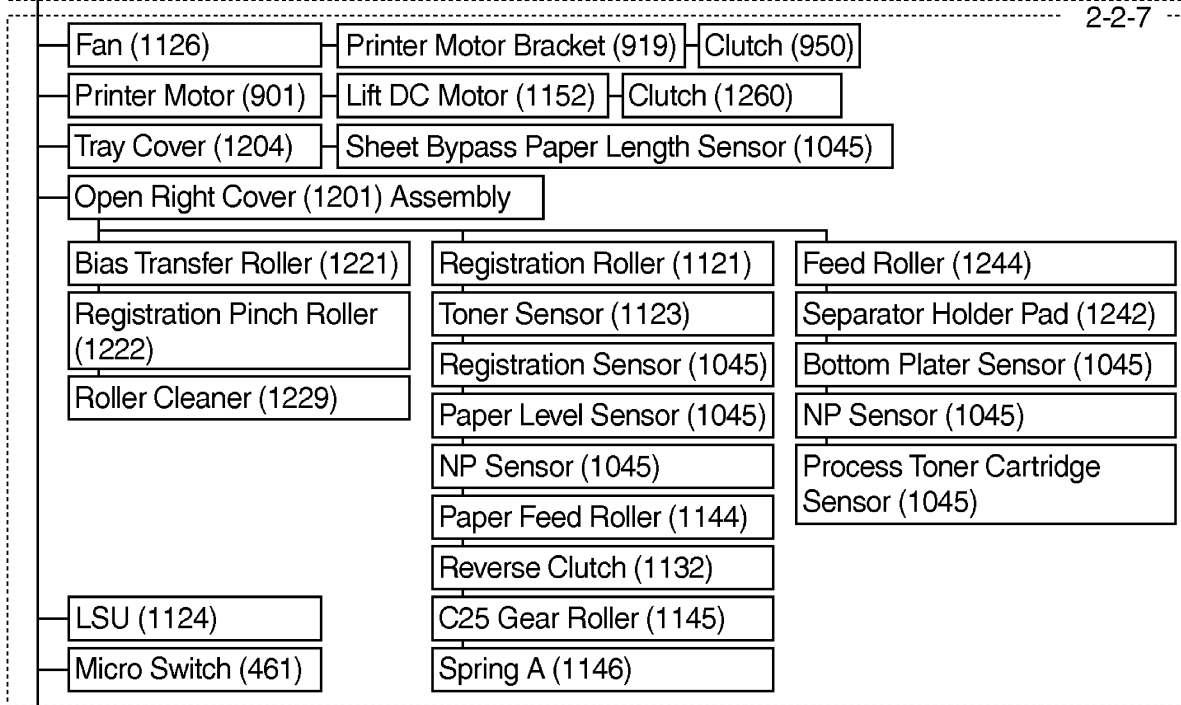
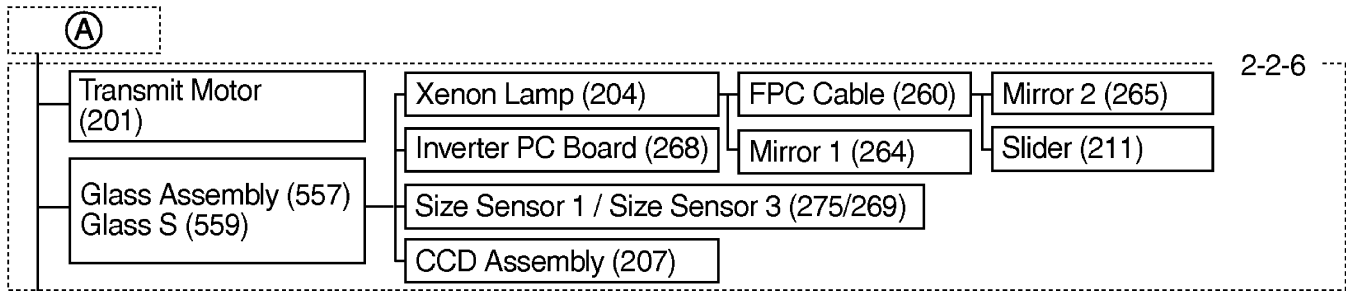
### 2.1. General Disassembly Flowchart

2-2-1



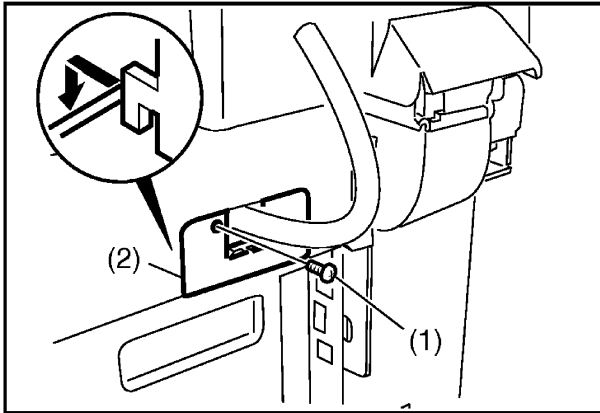


Ⓐ

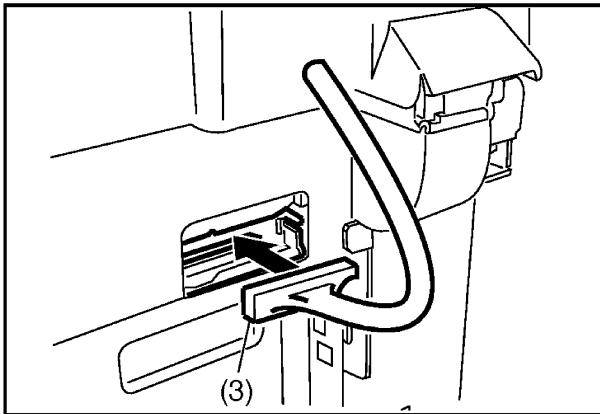


## 2.2. Disassembly Instructions

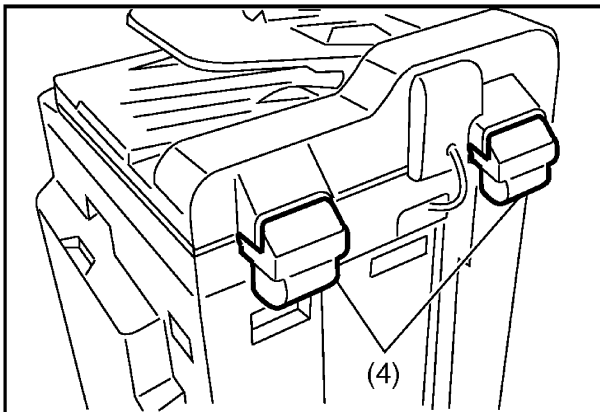
### 2.2.1. ADF Roller, Pre-Feed Roller, Torque Limiter Bushing, Torque Limiter Spring, Separation Roller, ADF PC Board, ADF Motor, Solenoid Bracket, Reversing Guide 2 Bracket Assembly, Reversing Guide 1 Bracket Assembly, Stamp Solenoid, Feed 2 Roller



- (1) 1 **Screw** (19).
- (2) Remove the **CN Cover** (510).



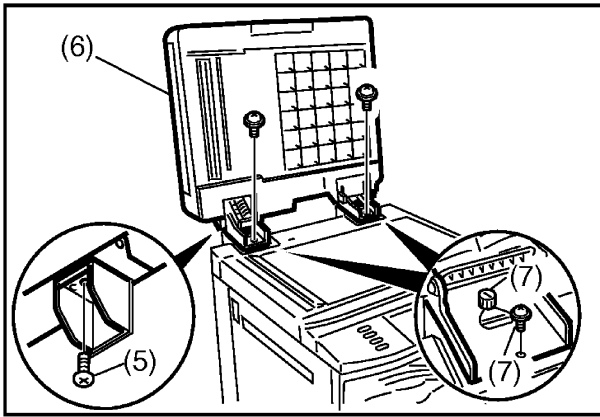
- (3) Disconnect the **ADF Harness** (1935) Connector.



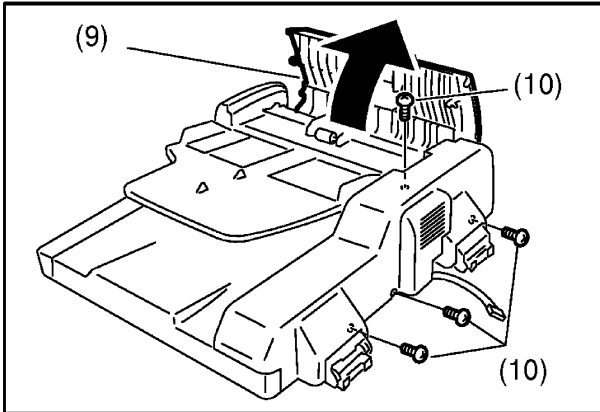
- (4) Remove 2 **Hinge Covers** (1656).

**Note:**

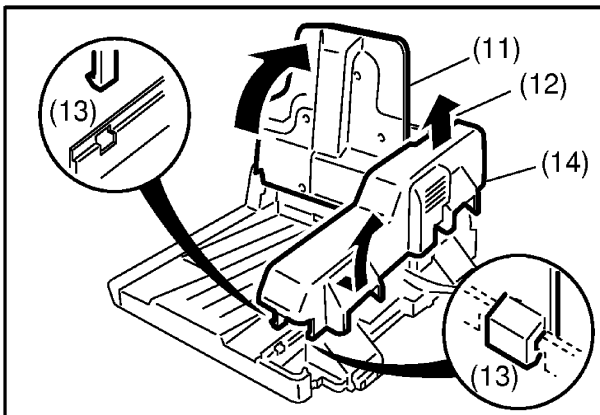
When re-installing the Hinge Covers, make sure that the Hinge Film (1658) on each side is inside of the Hinge Covers.



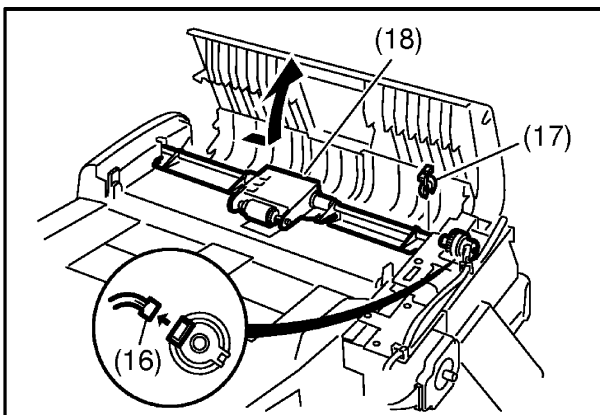
- (5) 1 **Screw** (19).
- (6) Open the **ADF**.
- (7) 2 **Screws** (F7).  
2 **Thumb Screws** (1654).
- (8) Remove the **ADF / iADF**.



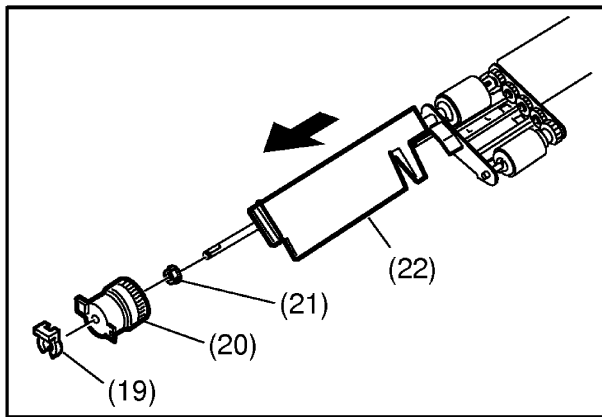
- (9) Open the **ADF Cover** (1831).
- (10) 4 **Silver Screws** (B1).



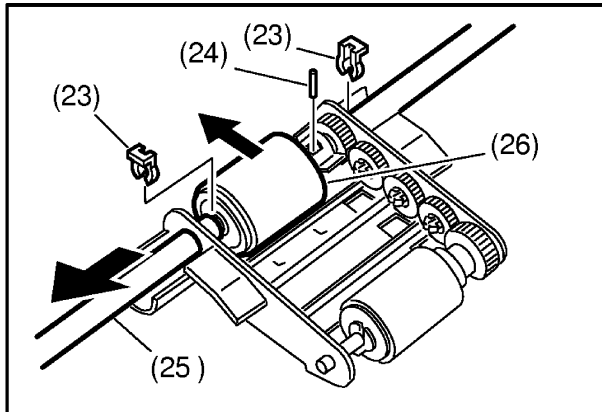
- (11) Lift the **ADF Input Tray** (1604).
- (12) Slightly pull the right edge of the ADF Rear Cover upward.
- (13) Release the **Latch Hooks**.
- (14) Remove the **ADF Rear Cover** (1601).



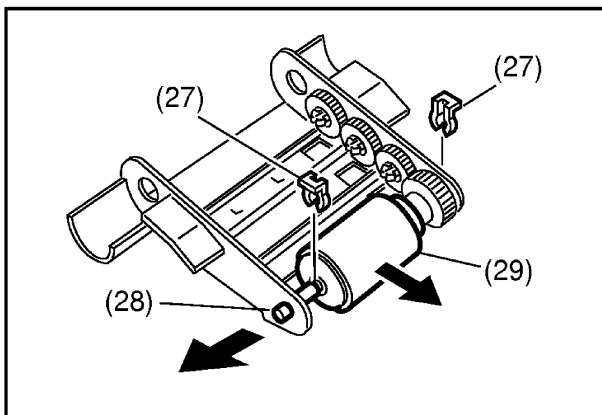
- (15) Lower the ADF Input Tray back in place.
- (16) Disconnect the **AMT Harness** (1936) from the Clutch.
- (17) Remove the **Snap Ring** (B9).
- (18) Remove the **ADF Roller** (1728) Assembly.



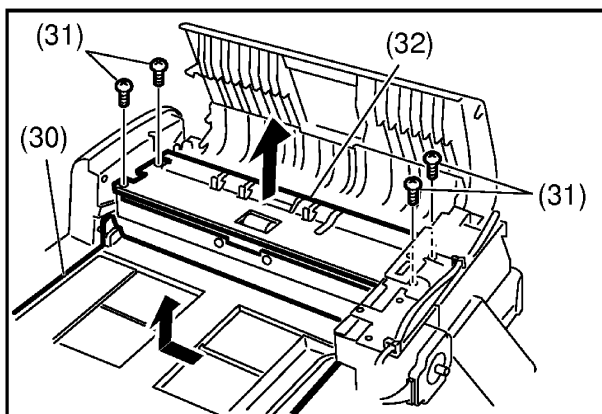
- (19) Remove the **Snap Ring** (B9).
- (20) Remove the **Clutch** (1260).
- (21) Remove the **Bushing** (1621).
- (22) Remove the **Rear ADF Guide** (1725).



- (23) Remove 2 **Snap Rings** (B9).
- (24) Remove the **Pin** (1781).
- (25) Remove the **ADF Shaft** (1724).
- (26) Remove the **ADF Roller** (1728).

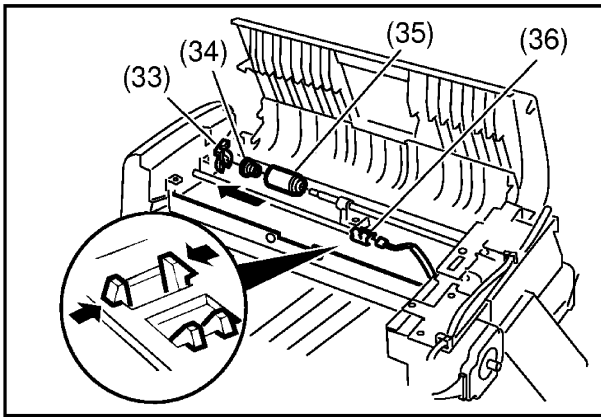


- (27) Remove 2 **Snap Rings** (271).
- (28) Remove the **Pre-Feed Roller Shaft** (1730).
- (29) Remove the **Pre-Feed Roller** (1731).



- (30) Remove the **ADF Input Tray** (1604).
- Note:**  
Do not cut the Tie-Wrap. Push the release clip on the side to remove it.
- (31) 4 **Screws** (19).
- (32) Remove the **Upper ADF Guide** (1723).



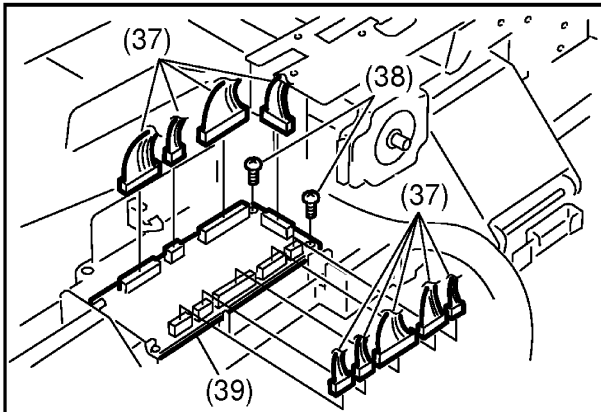


- (33) Remove the **Snap Ring** (271).
- (34) Remove the **Torque Limiter Bushing** (1741) and **Torque Limiter Spring** (1742).

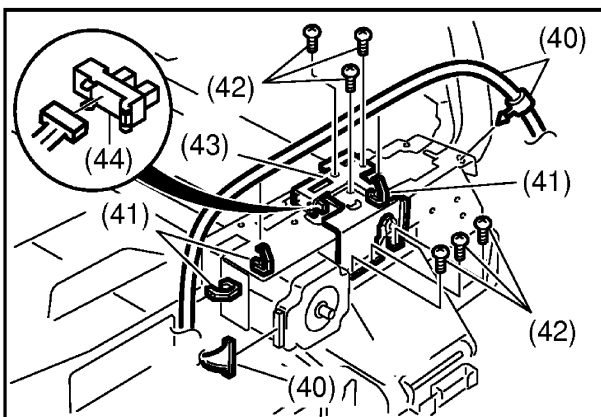
**Note:**

When re-installing the Torque Limiter Assembly, ensure that the Torque Limiter Spring is placed into the deeper slot of the Separation Roller.

- (35) Remove the **Separation Roller** (1740).
- (36) Disconnect the **APNT Harness** (1941) and remove **Sensor** (1045) (Original Detection Sensor).



- (37) Disconnect all **Connectors** on the ADF PC Board.
- (38) 2 **Screws** (19).
- (39) Remove the **ADF PC Board** (19115).

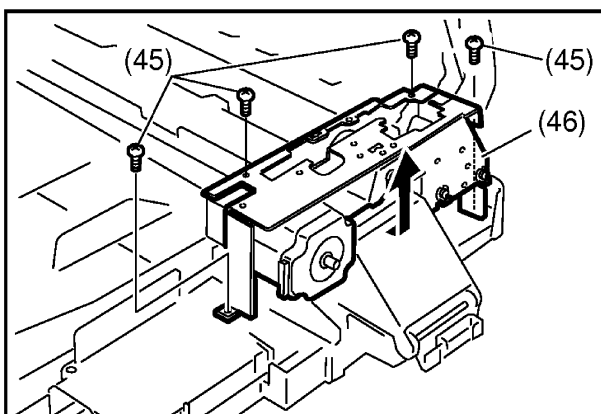


- (40) Disconnect the **AMT Harness** (1936) from the ADF Motor.
- (41) Remove the **Harness** from the 3 clamps.

**Note:**

Do not cut the Tie-Wrap. Push the release clip on the side of the Tie-Wrap to remove it.

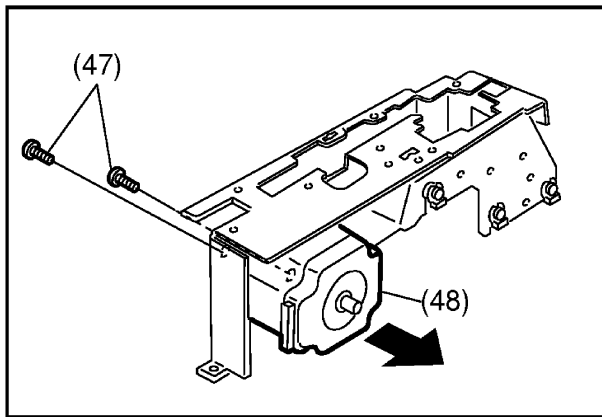
- (42) 6 **Screws** (19).
- (43) Remove the **Sensor Bracket** (1663).
- (44) Disconnect the **B1S Harness** (1940) and remove **Sensor** (1045) (ADF Cover Open Detection Sensor).



- (45) 4 **Screws** (19).
- (46) Remove the **Motor Bracket** (1811) and **Gear Bracket** (1802) Assemblies.

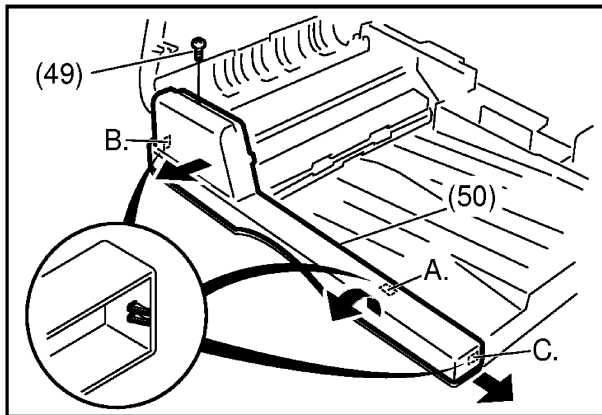
**Note:**

Apply Molykote EM-50L Grease to all Gears and Shafts except to the following: E26S35 Drive Gear (1805), E26S35 Gear F (3605), ADF Motor (1801), and the shafts of Drive Shaft 2 (1817) and Exit Roller (1751).



(47) 2 **Screws** (24).

(48) Remove the **ADF Motor** (1801).

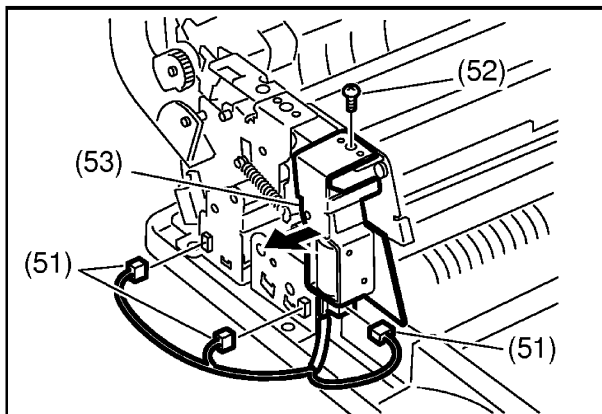


(49) 1 **Silver Screw** (B1).

(50) Remove the **ADF Front Cover** (1637).

**Note:**

Release 3 Latch Hooks in alphabetical order and in the direction as shown by each arrow.

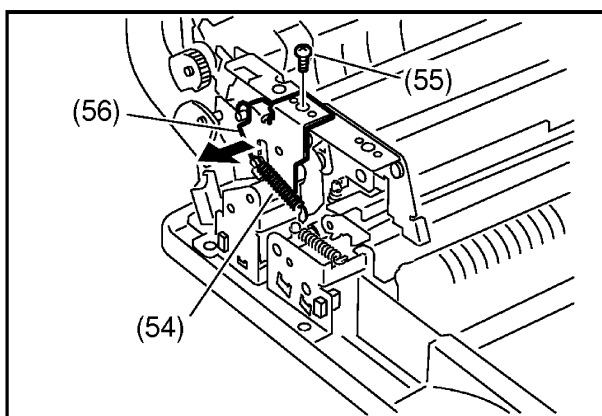


< When the iADF is installed >

(51) Disconnect 3 **CLT Harness** (1938) Connectors.

(52) 1 **Screw** (19).

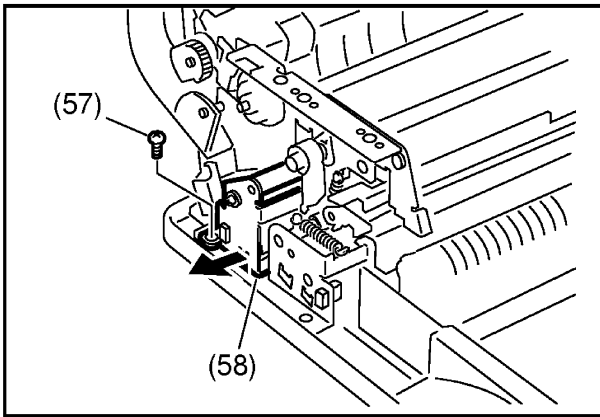
(53) Remove the **Solenoid Bracket** (1761) Assembly.



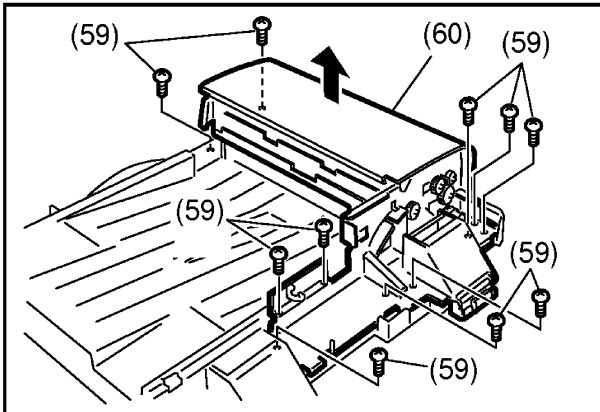
(54) Remove the **Spring** (1776).

(55) 1 **Screw** (19).

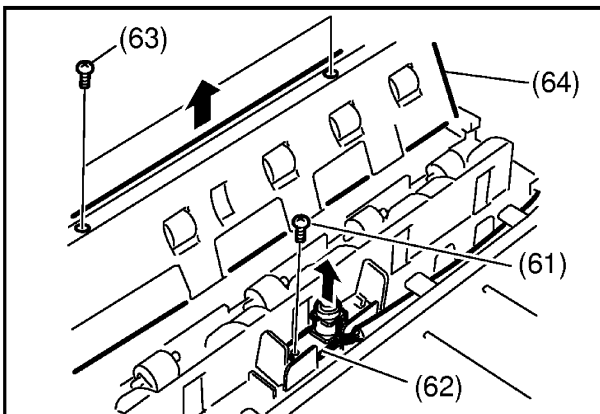
(56) Remove the **Moving Gear Bracket** (1768) Assembly.



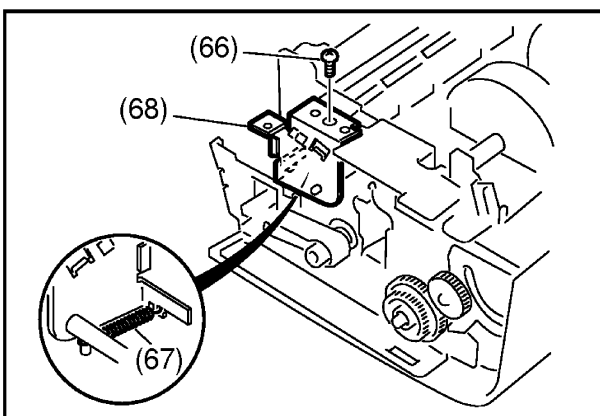
- (57) 1 **Screw** (19).
- (58) Remove the **Reversing Guide 2 Bracket** (1775) Assembly.



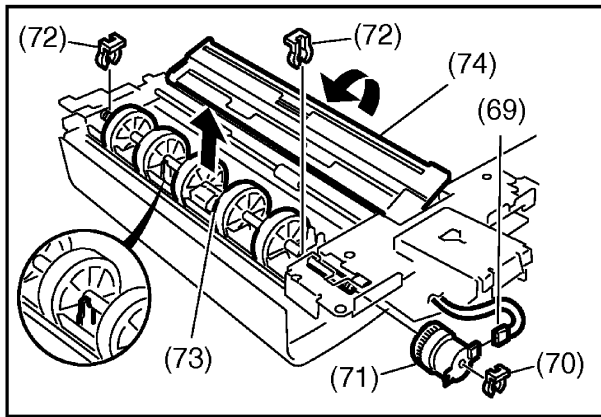
- (59) 10 **Screws** (B4).
- (60) Remove the **ADF Unit**.



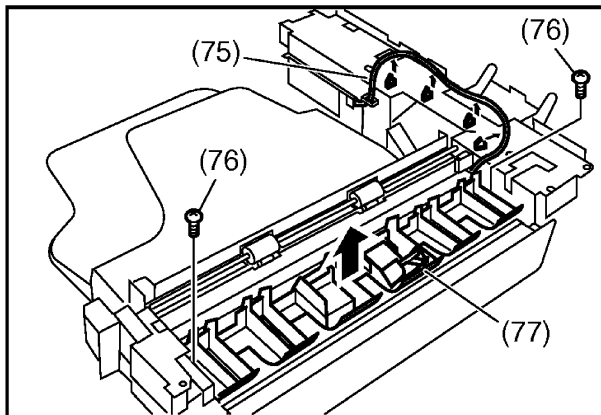
- (61) 1 **Screw** (19).
- (62) Remove the **Stamp Solenoid** (1635).
- (63) 2 **Screws** (19).
- (64) Remove the **Upper Feed Guide** (1861) Assembly.



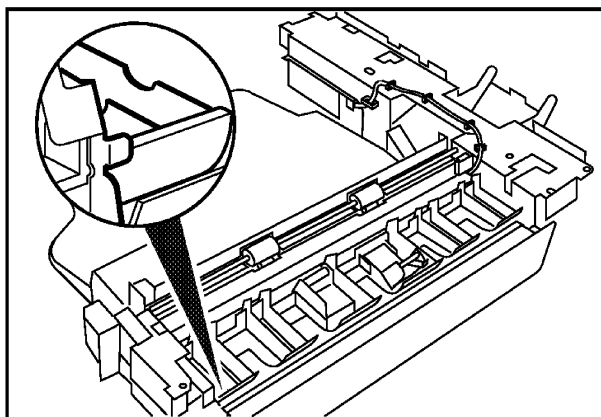
- (65) Carefully turn the ADF Unit upside down.
- (66) 1 **Screw** (19).
- (67) Remove the **Reversing Guide 1 Spring** (1771).
- (68) Remove the **Reversing Guide 1 Bracket** (1772) Assembly.



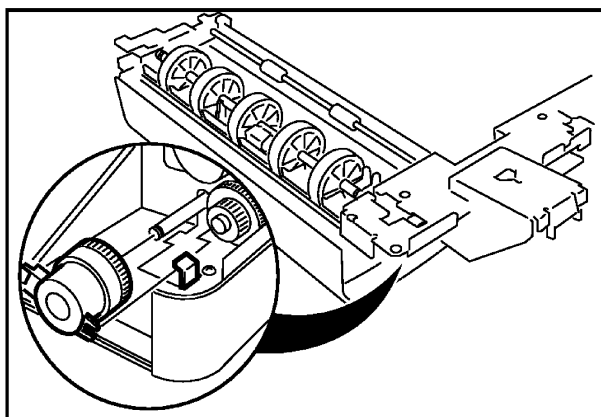
- (69) Disconnect the **AMT Harness** (1936) from the Clutch.
- (70) Remove the **Snap Ring** (B9).
- (71) Remove the **Clutch** (1260).
- (72) Remove 2 **Snap Rings** (B9).
- (73) Remove the **Feed 2 Roller** (1753).
- (74) Open the **ADF Exit Cover** (1854) Assembly and remove in the direction of the arrow.



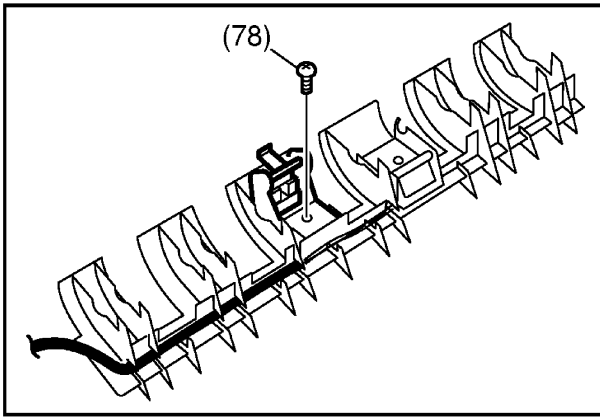
- (75) Remove the **EXT Harness** (1943) from 4 Clamps.
- (76) 2 **Screws** (19).
- (77) Remove the **Feed 2 Roller Guide** (1754) Assembly.



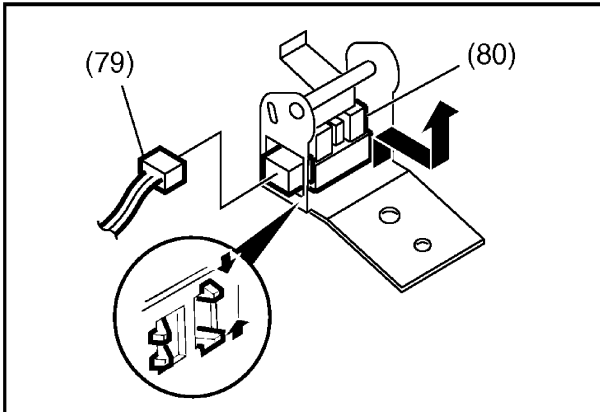
**Note 1:**  
When re-installing the Feed 2 Roller Guide, make sure that the Feed 2 Roller Guide is inside of the hook on the Front ADF Bracket.



**Note 2:**  
When re-installing the Clutch, make sure that the hook of the Clutch is properly placed into the notch of the Rear ADF Bracket.



(78) 1 **Screw** (19).

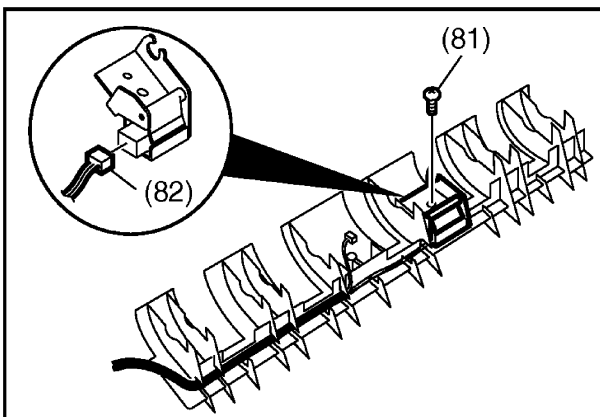


(79) Disconnect the **Connector** from the Sensor.

(80) Release the **Latch Hooks** and remove the **Sensor** (Eject Sensor) (1045).

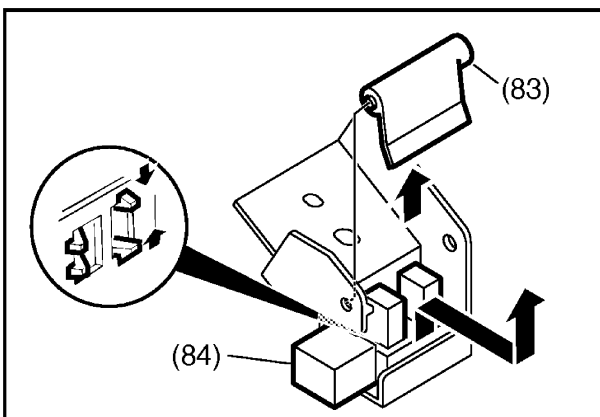
**Note:**

Do not break the Latch Hooks when removing or re-installing the Sensor.



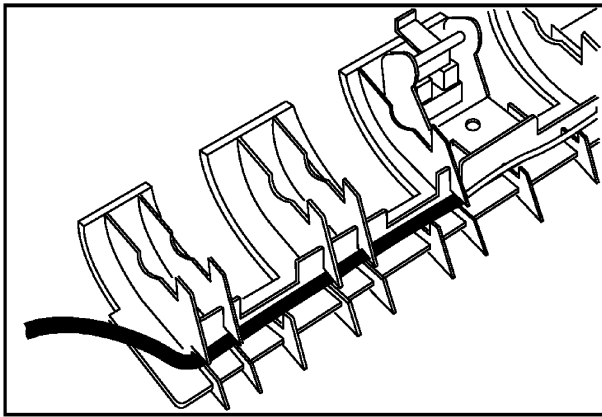
(81) 1 **Screw** (19).

(82) Disconnect the **Connector** from the Sensor.



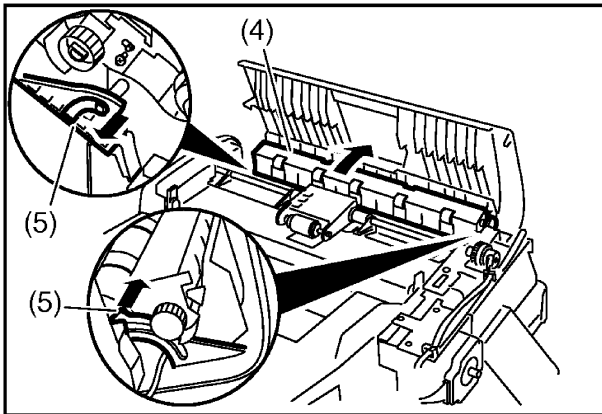
(83) Remove the **Sensor C Actuator** (1756).

(84) Release the **Latch Hooks** and remove the **Sensor** (Duplex Eject Sensor) (1045).



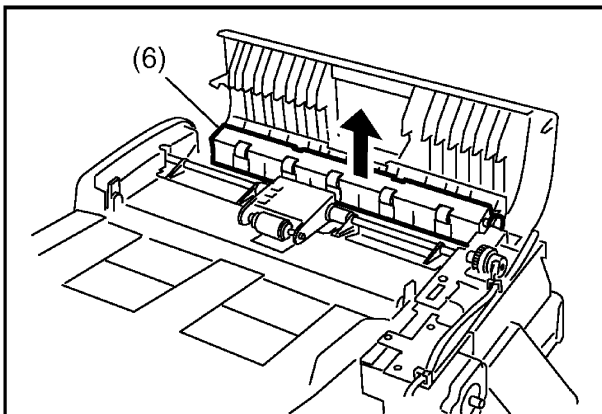
**Note:**

When re-installing the **EXT Harness** (1943), make sure to route the Harness along the hooks as illustrated to prevent paper jams.

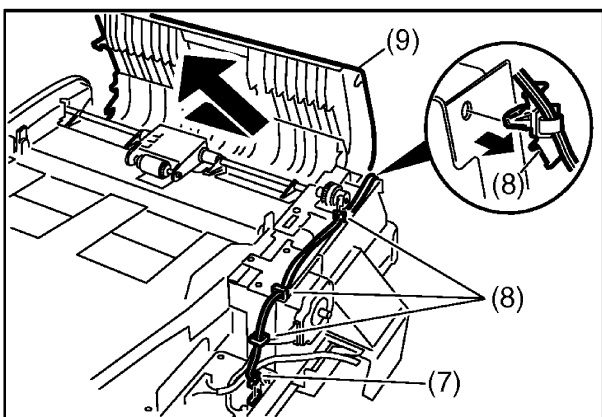


**< Removing ADF Cover Assembly>**

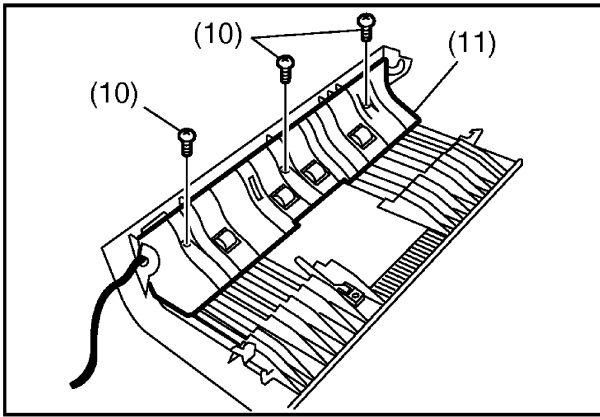
- (1) Open the **ADF Cover** (1831).
- (2) Remove the **ADF Rear Cover** (1601) and the **ADF Front Cover** (1637). (See step (14) and step (50))
- (3) Lower the ADF Input Tray back in place.
- (4) Move the **Lower Feed Guide** (1873) Assembly in the direction of the arrow.
- (5) Release the hooks on both sides to open the **ADF Cover** (1831) Assembly wide.



- (6) Remove the **Lower Feed Guide** (1873) Assembly.

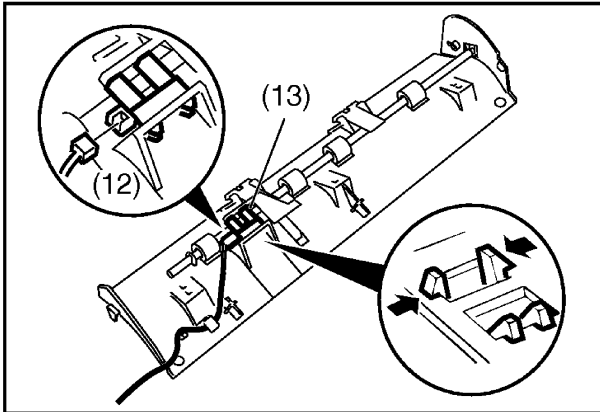


- (7) Disconnect the **Connector CN29**.
- (8) Remove the **B1S Harness** (1940) from 4 Clamps.
- (9) Remove the **ADF Cover** (1831) Assembly.



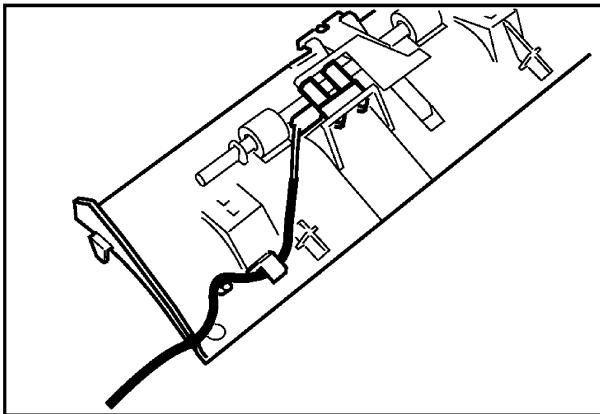
(10) 3 **Screws** (19).

(11) Remove the **Sub ADF Cover** (1842) Assembly.



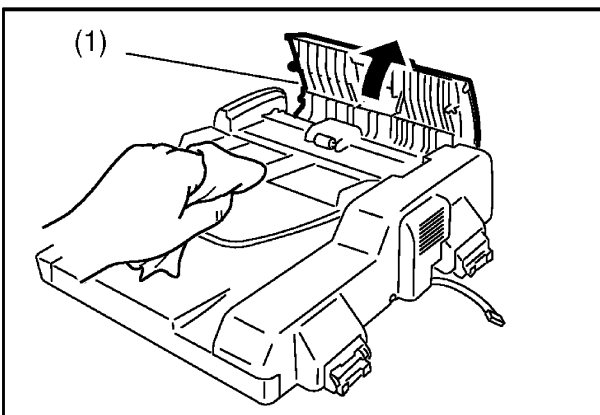
(12) Disconnect the **Connector** from the Sensor.

(13) Release the **Latch Hooks** and remove the **Sensor** (Read Point Sensor) (1045).



**Note:**

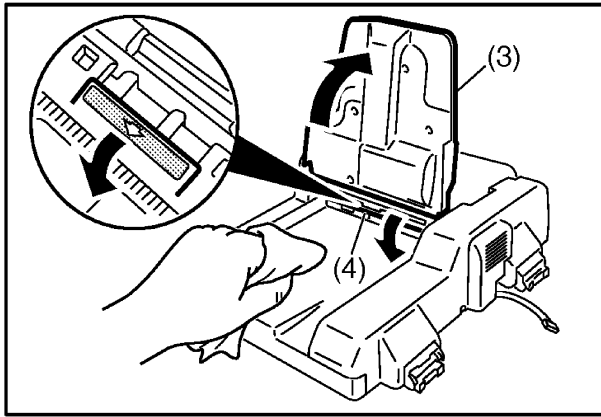
When re-installing the Harness, make sure to route the Harness along the hooks as illustrated.



**< Cleaning ADF Roller, Pre-Feed Roller, Drive Roller and Feed 2 Roller>**

(1) Open the **ADF Cover** (1831).

(2) Clean the **ADF Roller** (1728), **Pre-Feed Roller** (1731), **Drive Roller** (1872) and the **Feed 2 Roller** (1753) with a soft cloth, saturated with isopropyl alcohol.

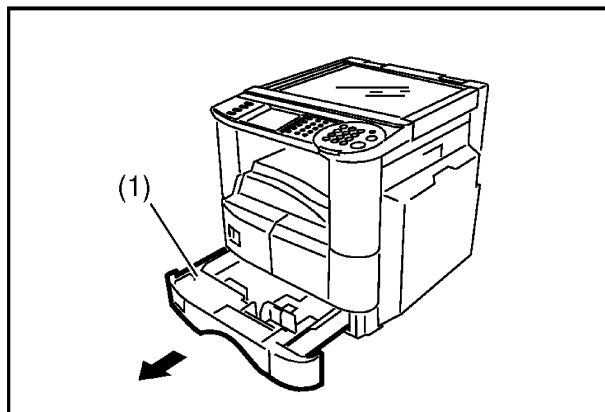


#### < Cleaning Exit Roller and Inverting Feed Roller>

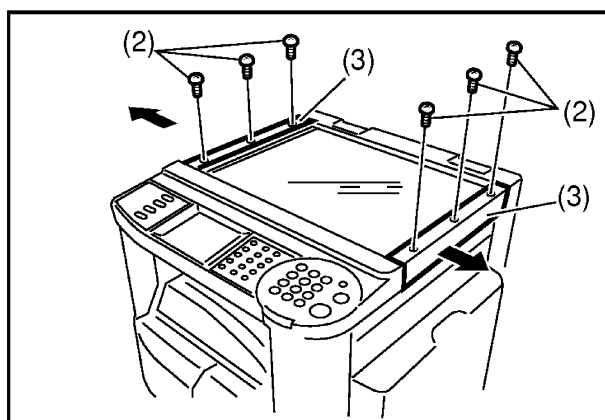
- (3) Lift the **ADF Input Tray** (1604).
- (4) Open the **ADF Exit Cover** (1854).
- (5) Clean the **Exit Roller** (1751) and the **Inverting Feed Roller** (1853) with a soft cloth, saturated with isopropyl alcohol.



**2.2.2. Left Platen Cover, Right Platen Cover, Control Panel Assembly, Lower Rear Cover, Left Rear Cover, Right Rear Cover, Rear Platen Cover, Front AC SW Cover, Blind Cover, Lower Control Panel Cover, Right Front Cover, Front Cover, S Inner Cover, Exit Cover, Left Side Cover, Right Side Cover**

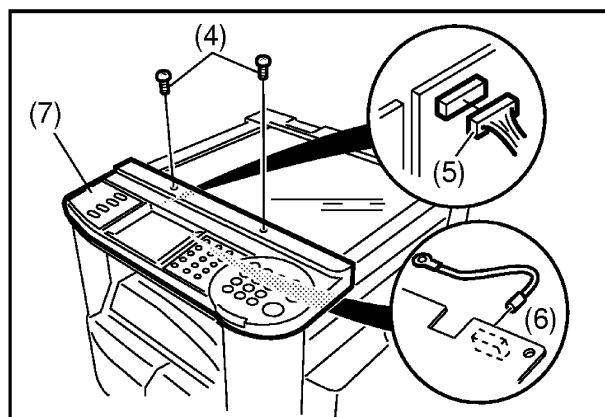


(1) Slide out the **Paper Tray**.



(2) 6 **Silver Screws** (B1).

(3) Remove the **Left Platen Cover** (514) and the **Right Platen Cover** (516).

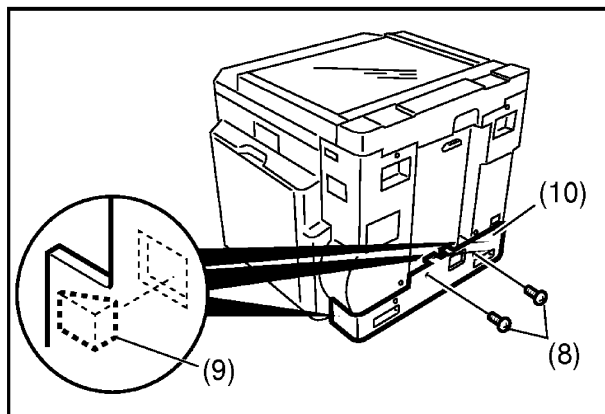


(4) 2 **Silver Screws** (B1).

(5) Slightly lift the Main Panel Assembly and disconnect **Connector CN65** on the PNL1 PC Board (19120).

(6) Disconnect the **Ground Connector CN68** on the PNL1 PC Board (19120).

(7) Remove the **Control Panel Assembly**.



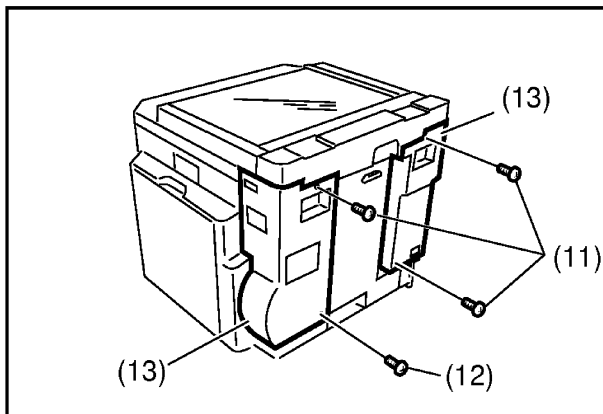
(8) 2 **Silver Screws** (B1).

**Note:**

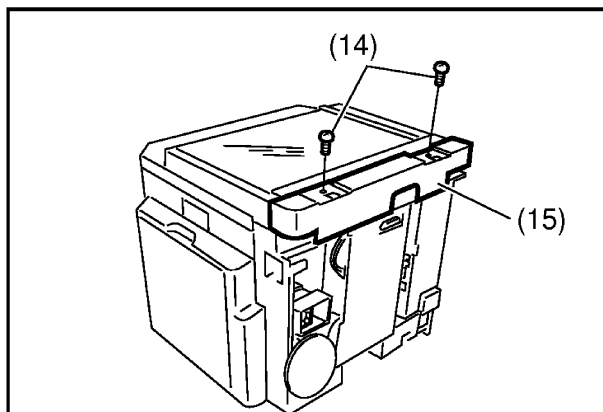
The number of screws may vary on units produced prior to Dec. 2000.

(9) Release 3 **Latch Hooks** on the left and right edge of the Lower Rear Cover.

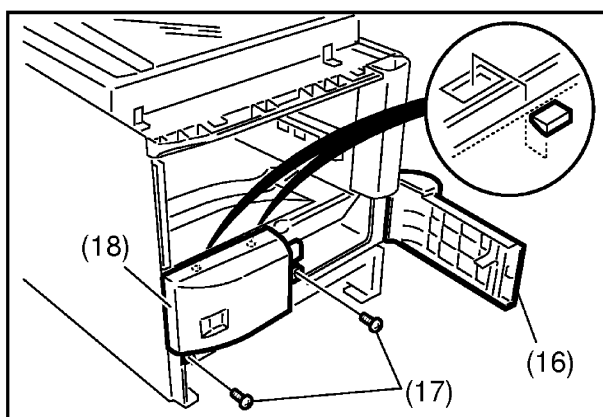
(10) Remove the **Lower Rear Cover** (506).



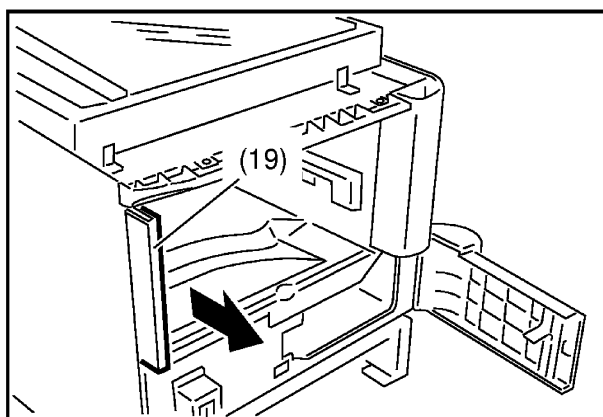
- (11) 3 **Silver Screws** (B1).
- (12) 1 **Silver Screw** (556).
- (13) Remove the **Left Rear Cover** (517) and the **Right Rear Cover** (507).



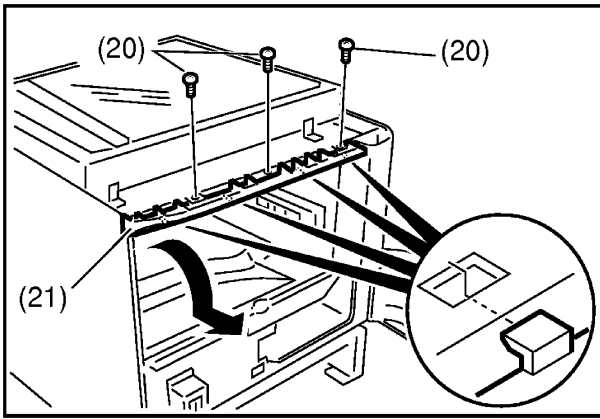
- (14) 2 **Silver Screws** (B1).
- (15) Remove the **Rear Platen Cover** (504).



- (16) Open the **Front Cover** (528).
- (17) 2 **Screws** (19).
- (18) Remove the **Front AC SW Cover** (534).

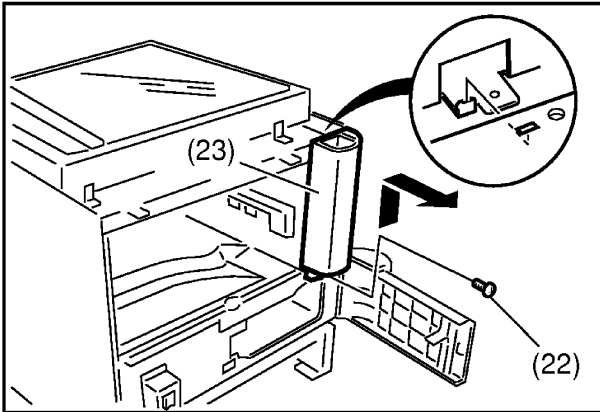


- (19) Remove the **Blind Cover** (530).



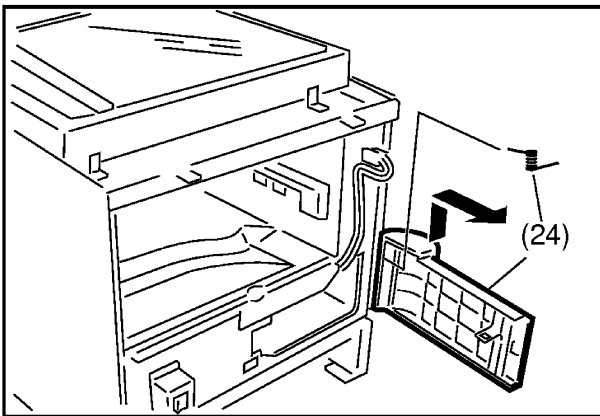
(20) 3 **Screws** (19).

(21) Remove the **Lower Control Panel Cover** (526).



(22) 1 **Screw** (19).

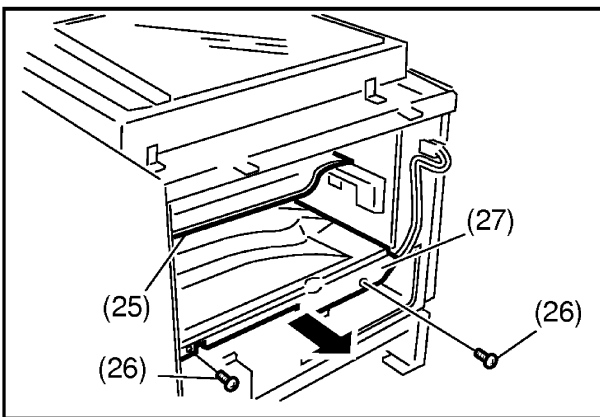
(23) Remove the **Right Front Cover** (525).



(24) Remove the **Door Cover Spring** (536) and the **Front Cover** (528).

**Note:**

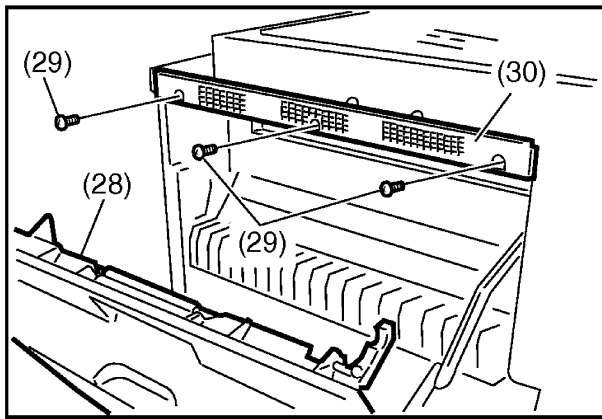
Exercise care not to lose the Door Cover Spring.



(25) If installed, remove the **Inner Tray** (1522).

(26) 2 **Screws** (19).

(27) Remove the **S Inner Cover** (524).



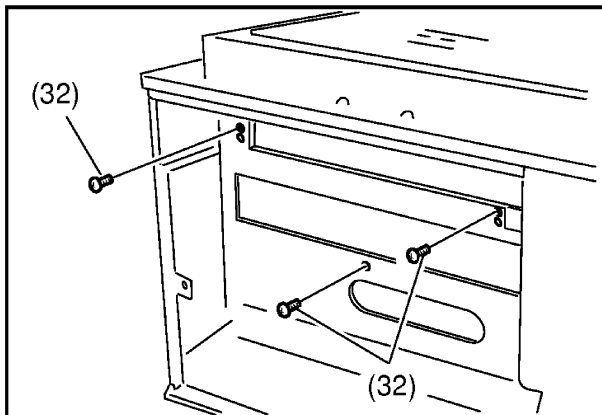
(28) Open the **Right Cover** (1201) Assembly.

**Note:**

If the Dual-Path Exit Guide Unit (DA-FK200) is installed, remove it first by reversing the installation procedure. (See Sect. 9.20.)

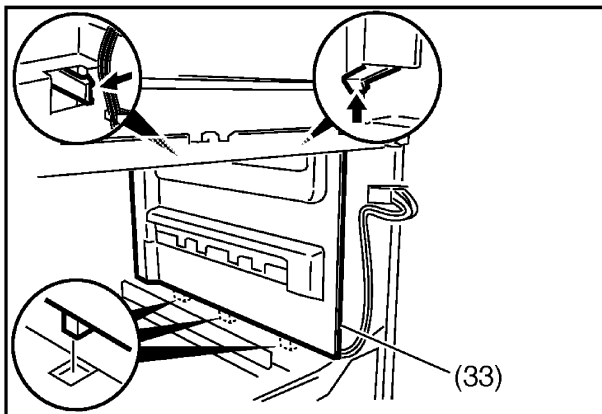
(29) 3 **Silver Screws** (B1).

(30) Remove the **Right Side Cover** (523).

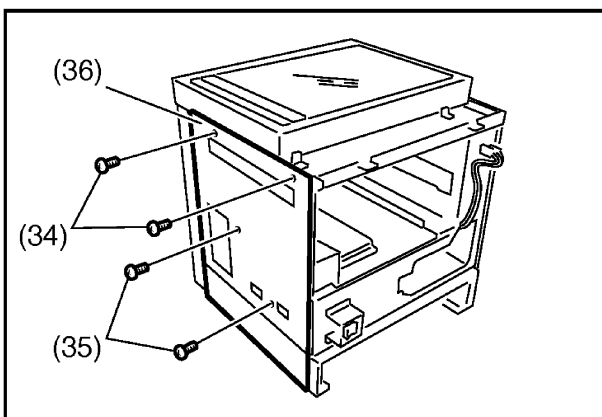


(31) Remove the **Fuser Unit**. (See Sect. 2.2.8.)

(32) 3 **Screws** (19).



(33) Release 2 **Latch Hooks** in the upper corners of the Exit Cover and remove the **Exit Cover** (1521).



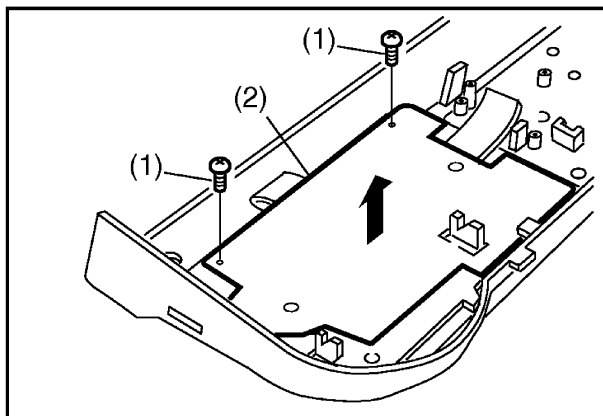
(34) 2 **Silver Screws** (556).

(35) 2 **Silver Screws** (B1).

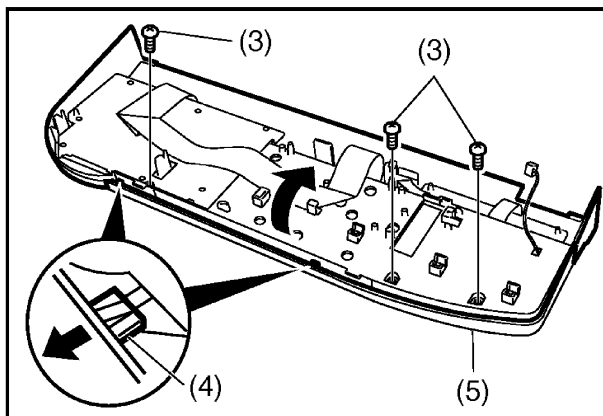
(36) Remove the **Left Side Cover** (535).

- 2.2.3. DP-2000 : EMI Sheet, PNL2 PC Board, PNL4 PC Board, LCD Module  
DP-2500/3000 : Inverter, EMI Sheet (Except for USA and Canada), PNL1 PC Board, PNL2 PC Board, LC Module, Touch Panel, PNL3 PC Board, Slide Switch Lever

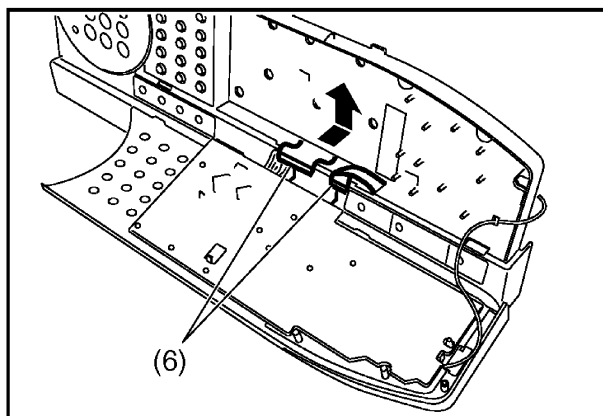
For DP-2000



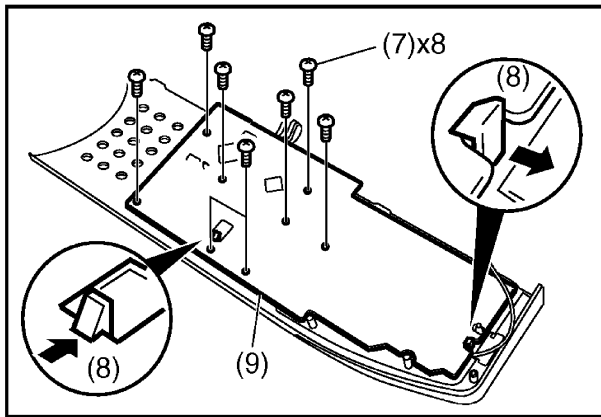
- (1) 2 **Screws** (7B).
- (2) Remove the **EMI Sheet** (128).



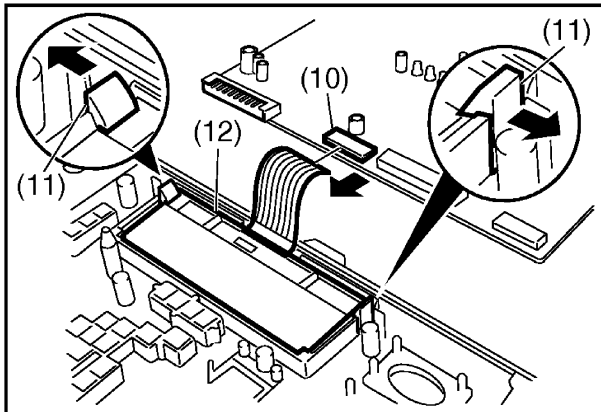
- (3) 3 **Screws** (7B).
- (4) Release 2 **Latch Hooks**.
- (5) Remove the **Control Panel Cover** (129).



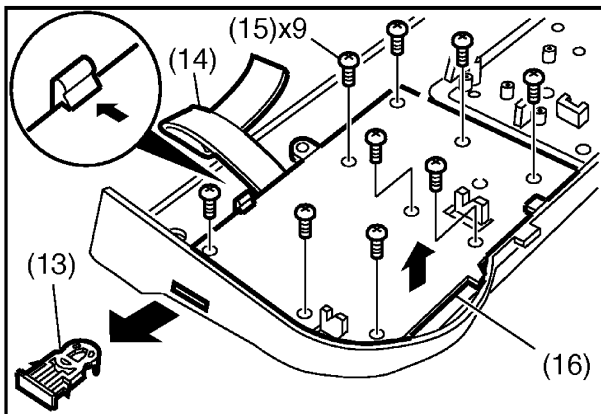
- (6) Disconnect 2 **Harnesses** on the PNL4 PC Board. (19153, 19154)



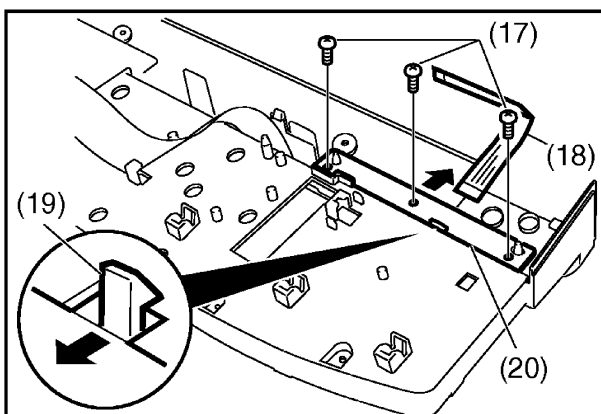
- (7) 8 **Screws** (7B).
- (8) Release 2 **Latch Hooks**.
- (9) Remove the **PNL4 PC Board** (19152).



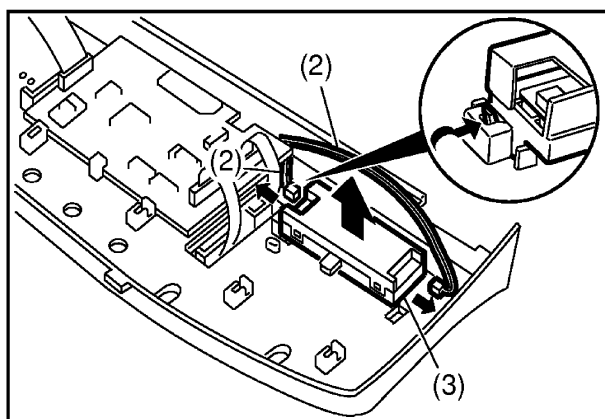
- (10) Remove the **LCD Harness**.
- (11) Release 2 **Latch Hooks**.
- (12) Remove the **LCD Module** (134).



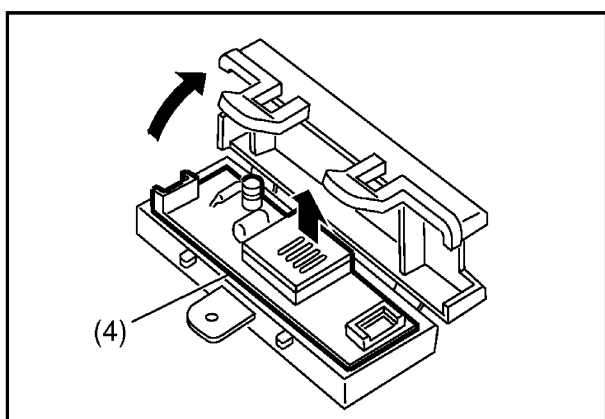
- (13) Remove the **Battery Holder** (105) Assembly.
- (14) Disconnect **Connector CN69** on the PNL2 PC Board.
- (15) 7 **Screws** (7B).
- (16) Remove the **PNL2 PC Board** (19121).



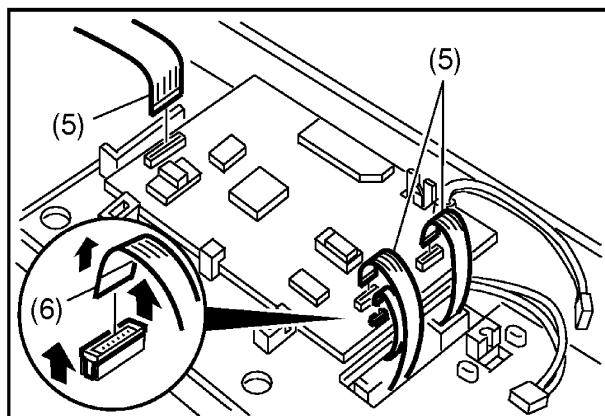
- (17) 3 **Screws** (7B).
- (18) Disconnect the **Harness** (19154).
- (19) Release the **Latch Hook**.
- (20) Remove the **PNL4 PC Board** (19152).



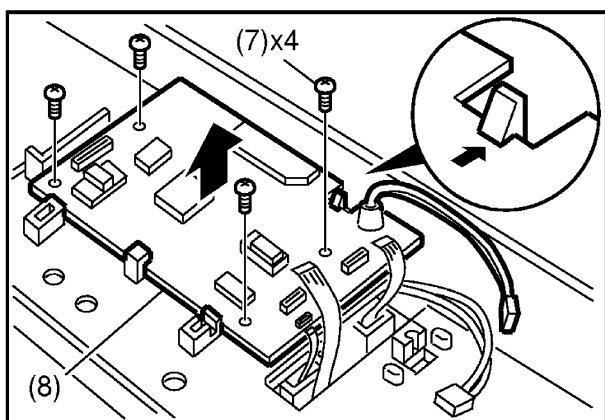
- (1) Remove the **Control Panel Assembly**.
- (2) Disconnect **Connectors CN1 and CN2** on the Inverter (125).
- (3) Remove the **Inverter Holder (113) Assembly**.



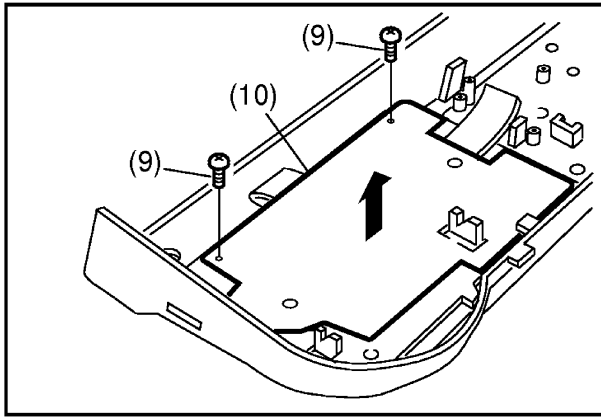
- (4) Remove the **Inverter (125)**.



- (5) Disconnect the Flat Cables from **Connectors CN61, CN66 and CN67** on the PNL1 PC Board.
- (6) Release the **Connector Lock** on **CN63** and disconnect the Flat Cable.

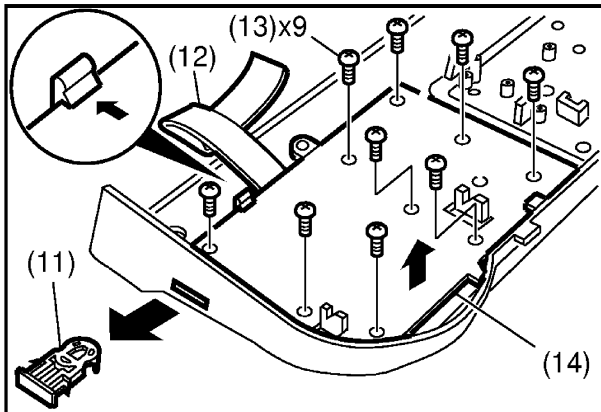


- (7) 4 **Screws (7B)**.
- (8) Remove the **PNL1 PC Board (19120)**.

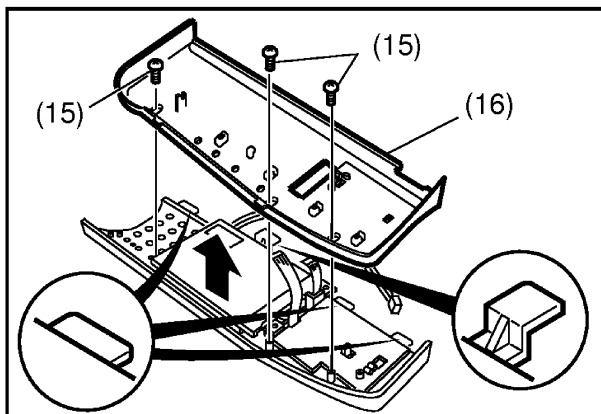


< Except for USA and Canada >

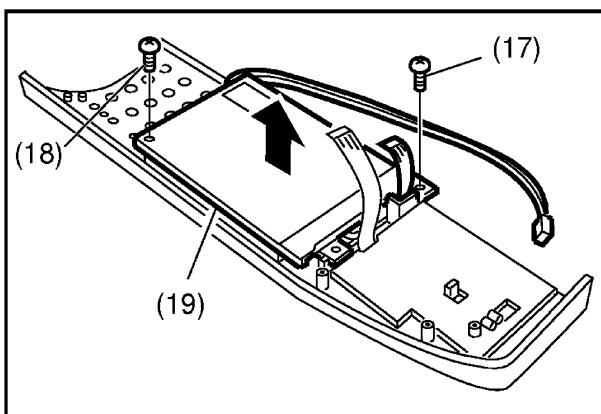
- (9) 2 **Screws** (7B).
- (10) Remove the **EMI Sheet** (128).



- (11) Remove the **Battery Holder** (105) Assembly.
- (12) Disconnect **Connector CN69** on the PNL2 PC Board.
- (13) 9 **Screws** (7B).
- Note:**  
Remove 7 Screws for Europe.
- (14) Remove the **PNL2 PC Board** (19121).

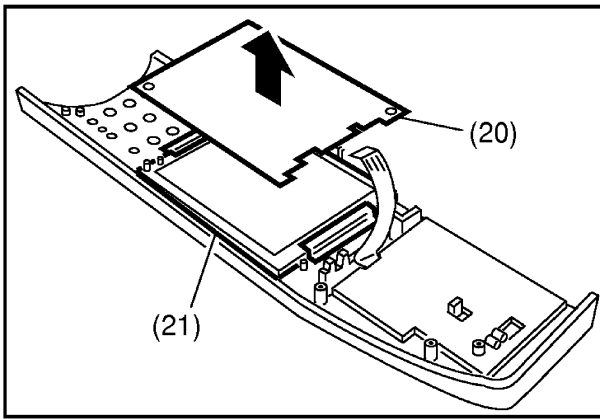


- (15) 3 **Screws** (7B).
- (16) Remove the **Control Panel Cover** (101).



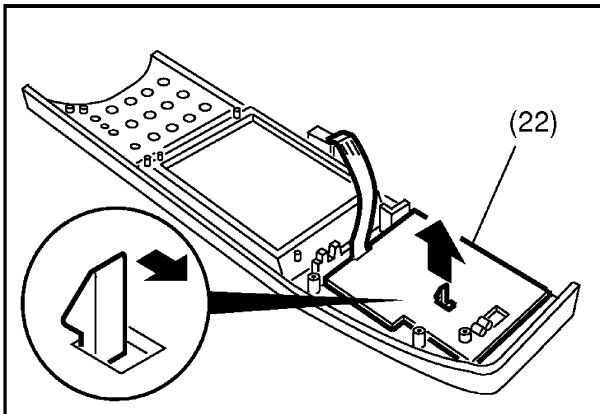
- (17) 1 **Screw** (7B).
- (18) 1 **Screw** (2K).
- (19) Remove the **LCD Module** (124).



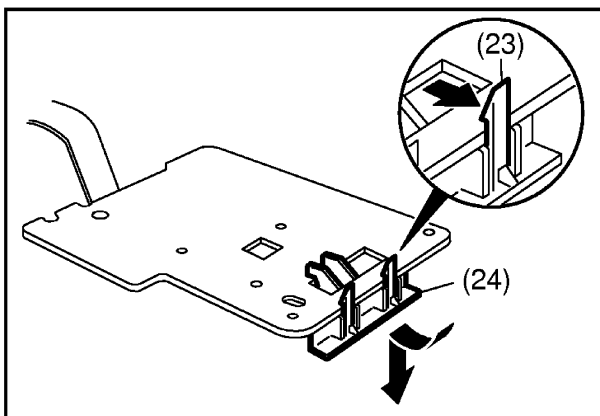


(20) Remove the **Insulation Sheet** (127).

(21) Remove the **Touch Panel** (123).



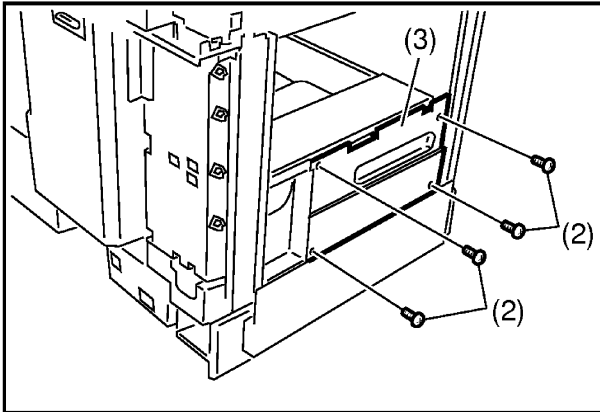
(22) Remove the **PNL3 PC Board** (19125).



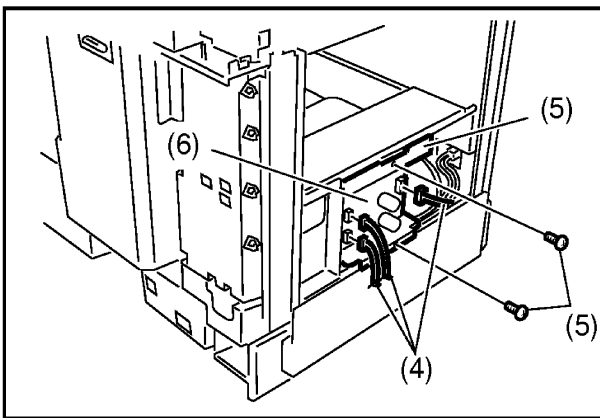
(23) Release 2 **Latch Hooks**.

(24) Remove the **Slide Switch Lever** (112).

**2.2.4. Optional Low Voltage PSU, HTC PC Board, Fan, Speaker, Low Voltage PSU, LCU/ LCE PC Board, LANC PC Board, FXB PC Board, G3B PC Board, LANB PC Board, SORT PC Board, PRI PC Board, EP PC Board Assembly, LPC PC Board, CONS PC Board, SC PC Board, Switch Holder, HTC 2 PC Board**

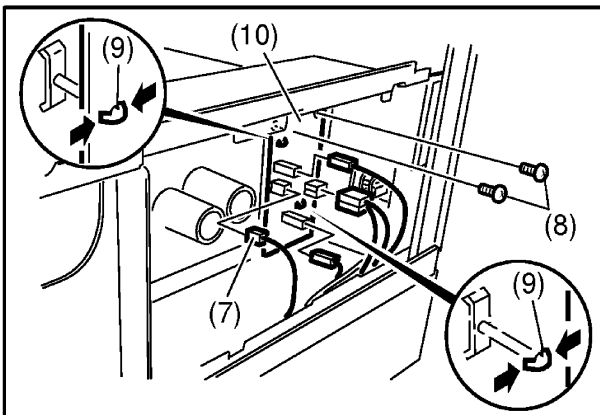


- (1) Remove all **Covers**. (Refer to 2.2.2.)
- (2) 4 **Screws** (19).
- (3) Remove the **LVPS Plate** (409).



**< When 1-Bin Finisher is installed >**

- (4) Disconnect **Connectors CN64, CN65 and CN66** on the Optional Low Voltage PSU.
- (5) Remove 2 **Screws** (19) and the **Optional Low Voltage PSU** Assembly.
- (6) Remove 4 **Screws** (19) and the **Optional Low Voltage PSU** (19130).

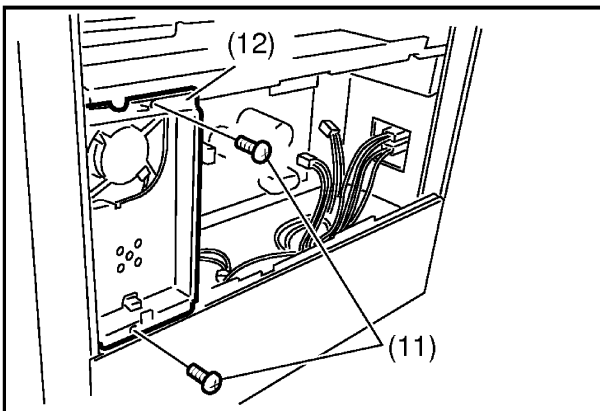


- (7) Disconnect all **Connectors** on the HTC PC Board.

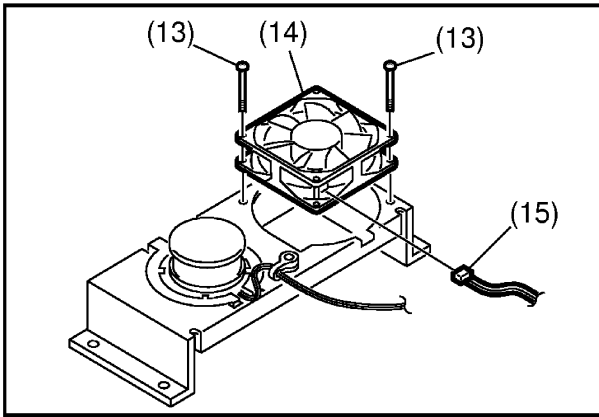
**Note:**

When re-connecting, ensure that the single Black wire Connector is connected to CN760 and the double-wire connector is connected to CN764 with the Black wire facing downwards.

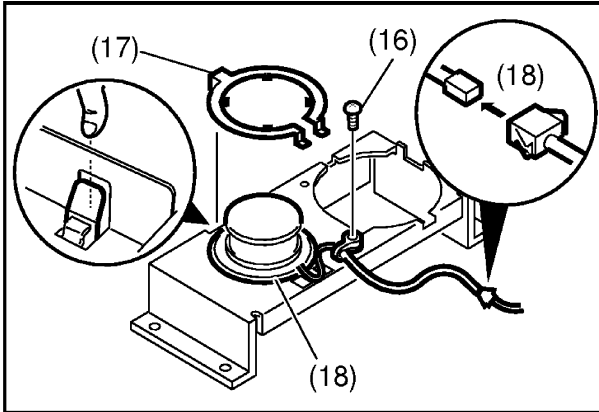
- (8) 2 **Screws** (19).
- (9) Release 2 **Locking Spacers** (307).
- (10) Remove the **HTC PC Board** (1997).



- (11) 2 **Screws** (19).
- (12) Remove the **FS Bracket** (427).

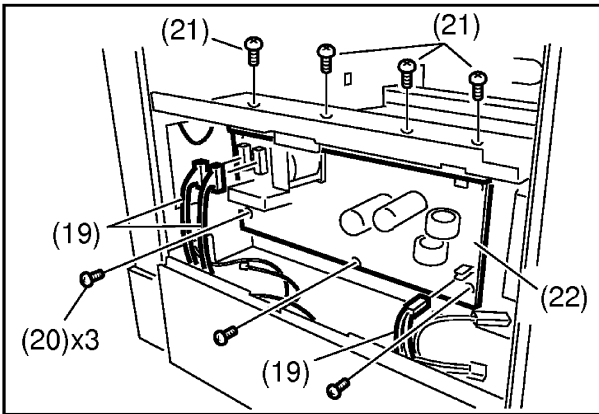


- (13) 2 **Screws** (E6).
- (14) Remove the **Fan** (1126).
- (15) Disconnect the **Fan Connector**.

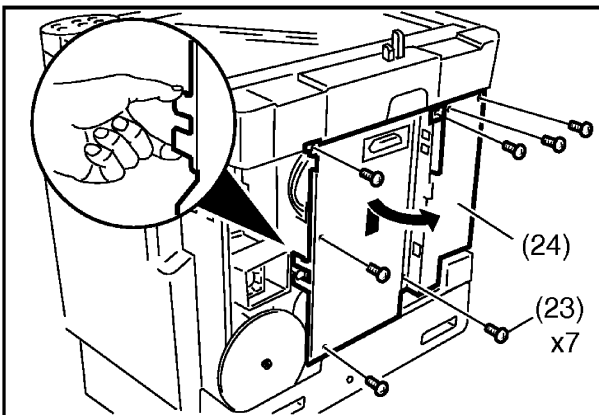


<If FAX Communication Kit is installed>

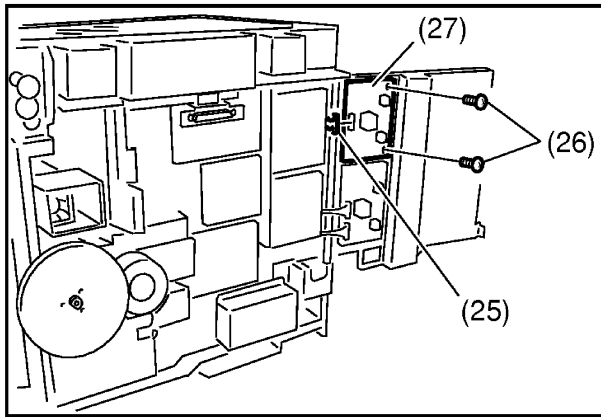
- (16) 1 **Screw** (19).
- (17) Remove the **Speaker Bracket** (429).
- (18) Remove the **Speaker** (448) Assembly and disconnect the Connector.



- (19) Remove all **Connectors** on the Low Voltage PSU.
- (20) 3 **Screws** (19).
- (21) 4 **Screws** (19).
- (22) Remove the **Low Voltage PSU** (1999).

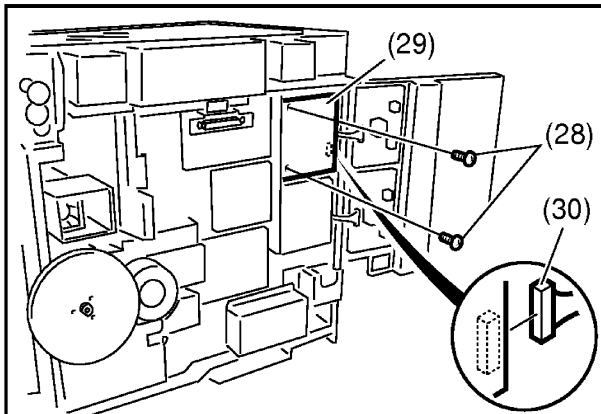


- (23) 7 **Screws** (19).
- (24) Open the **Rear Cover** (417) Assembly.

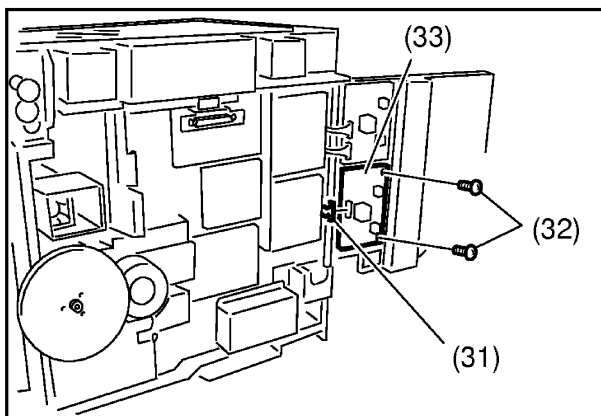


<If FAX Communication Kit is installed>

- (25) Disconnect **Connector CN25** on the LCU/LCE PC Board.
- (26) 2 **Screws** (19).
- (27) Remove the **LCU/LCE PC Board** (1995, 1994).

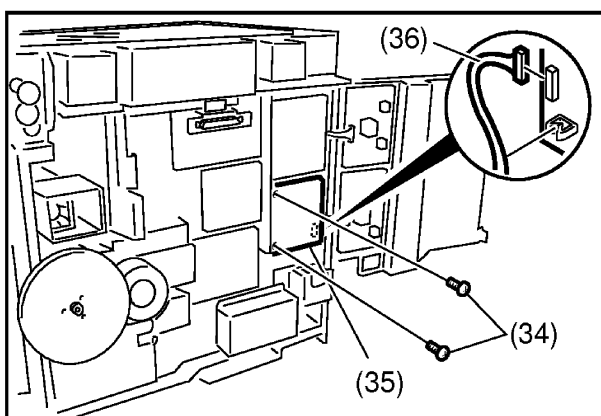


- (28) 2 **Screws** (19).
- (29) Remove the **FXB PC Board** (1985).
- (30) Disconnect the **Connector CN161** on the FXB PC Board.



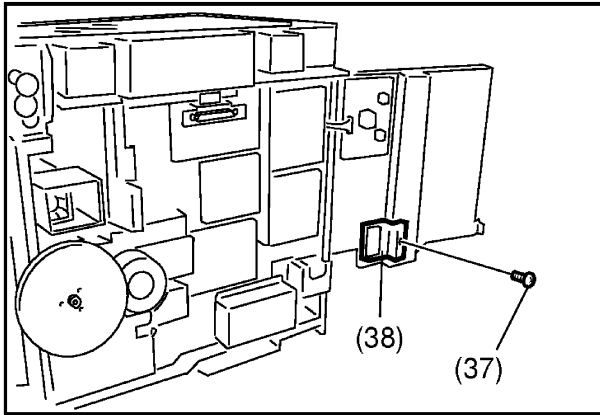
<If 2nd G3 Fax Communication Port Kit is installed>

- (31) Disconnect **Connector CN25** on the LCU/LCE PC Board.
- (32) 2 **Screws** (19).
- (33) Remove the **LCU/LCE PC Board** (1995, 1994).



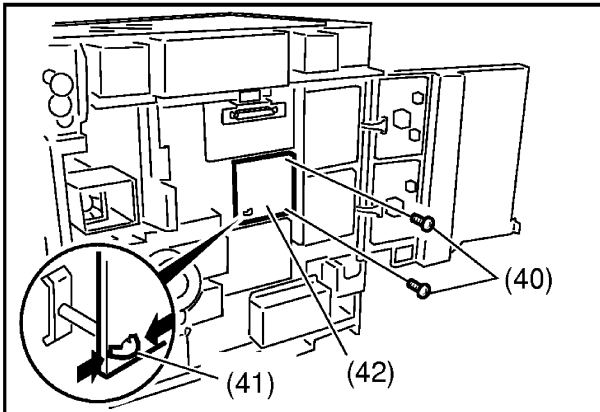
<If 2nd G3 Fax Communication Port Kit or 10/100 Ethernet Interface / Internet Fax Kit is installed>

- (34) 2 **Screws** (19).
- (35) Remove the **G3B PC Board** (19134) / **LANB PC Board** (1987).
- (36) Remove the **Harness** from the clamp and disconnect the **Connector** on either PC Board.



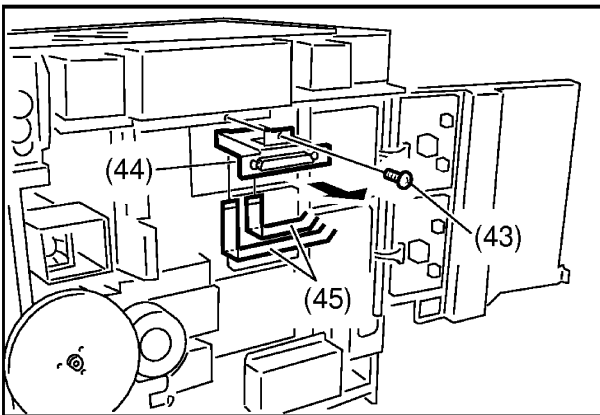
<If 10/100 Ethernet Interface / Internet Fax Kit is installed>

- (37) 1 **Screw** (19).
- (38) Remove the **LANC PC Board** (1989).
- (39) Disconnect **Connector CN200** on the LANC PC Board.



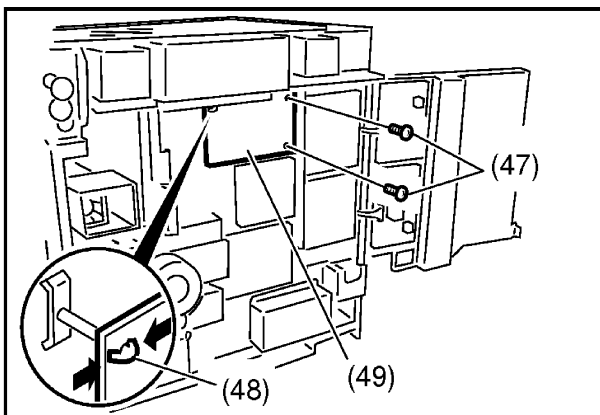
<If Electronic Sorting Board is installed>

- (40) 2 **Screws** (19).
- (41) Release the **Locking Spacer** (309).
- (42) Remove the **SORT PC Board** (1984).



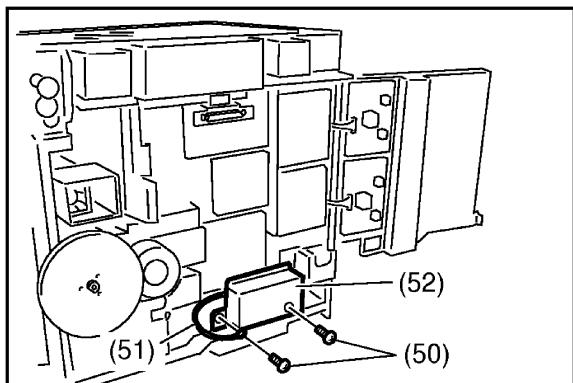
<If Parallel Port Interface Kit is installed>

- (43) 1 **Screw** (19).
- (44) Remove the **PRIF PC Board** (1991).
- (45) Disconnect **Connectors CN211 and CN212** on the PRIF PC Board.



<If PCL6 Emulation Kit is installed>

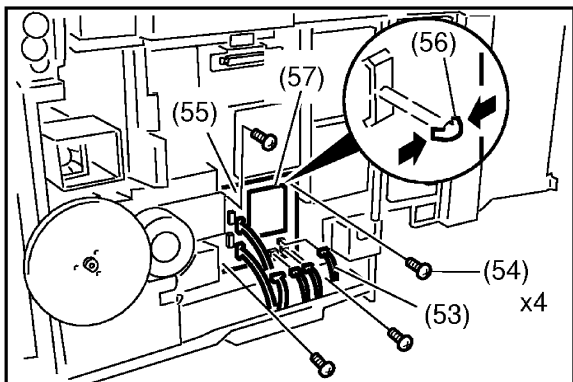
- (46) Remove the **PRIF PC Board** (1991).
- (47) 2 **Screws** (19).
- (48) Release the **Locking Spacer** (308).
- (49) Remove the **EP PC Board** (19119) Assembly.



(50) 2 **Screws** (19).

(51) Remove the **Ground Wire** of the Finisher Harness (1975).

(52) Remove the **FH Bracket** (425).



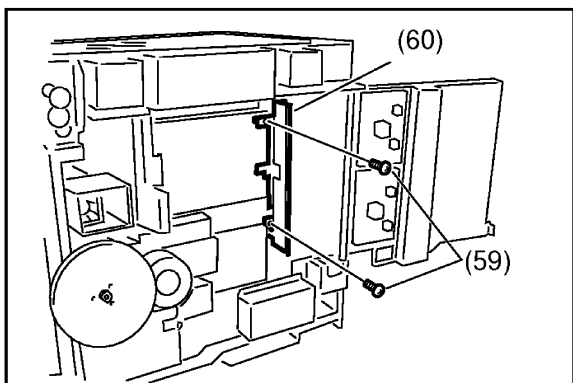
(53) Disconnect all **Connectors** on the LPC PC Board.

(54) 4 **Screws** (19).

(55) Remove the **LPC PC Board** (19129).

(56) Release 3 **Locking Spacers** (3007).

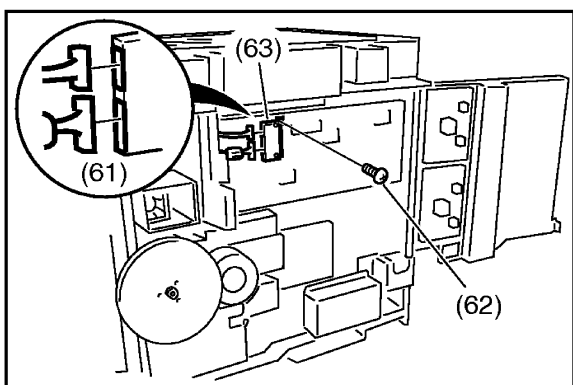
(57) Remove the **IPC Interface Board** (3006).



(58) Remove the **PRIF/SORT/EP PC Board** (1991, 1984, 19119). (See Sect. 2.2.4.)

(59) 2 **Screws** (19).

(60) Remove the **NOP Bracket** (421).

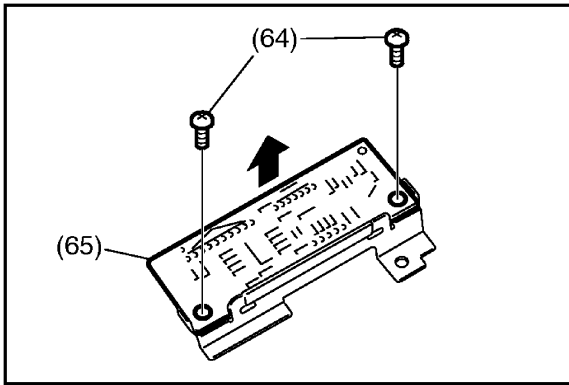


< For DP-3000 only - Steps 61 - 65 >

(61) Disconnect 2 **Connectors** on the CONS PC Board (19158).

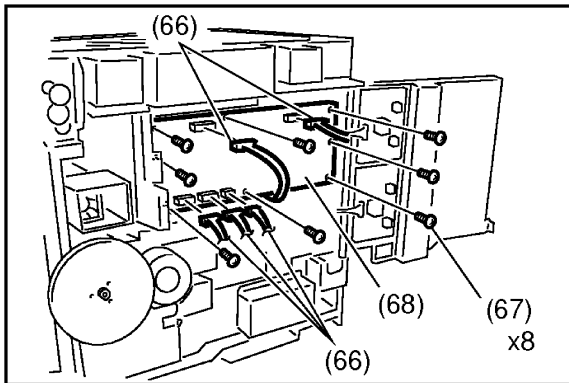
(62) 1 **Screw** (19).

(63) Remove the **CONS PCB Assembly**.



(64) 2 **Screws** (19).

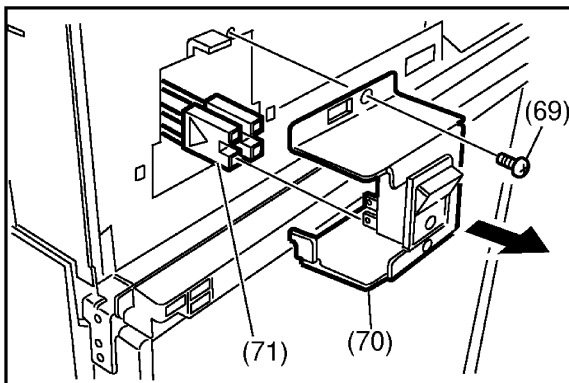
(65) Remove the **CONS PC Board** (19158).



(66) Disconnect all **Connectors** on the SC PC Board.

(67) 8 **Screws** (19).

(68) Remove the **SC PC Board** (1983).



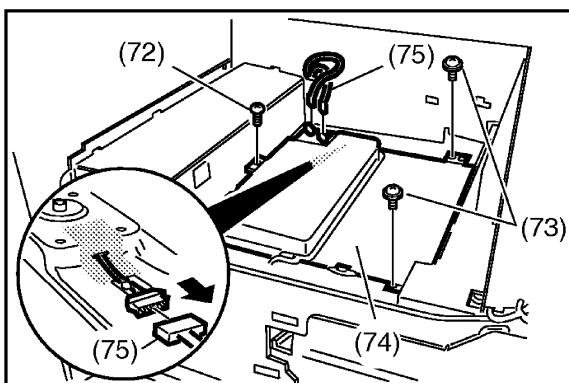
(69) 1 **Screw** (19).

(70) Remove the **Switch Holder** (410) Assembly.

(71) Disconnect the **Switch Connectors**.

**Note:**

When re-connecting the Connectors, make sure that the arrow on both connectors are facing outward as shown on the left.

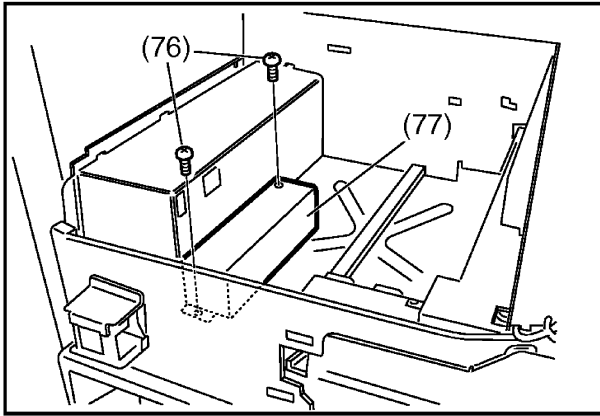


(72) 1 **Screw** (19).

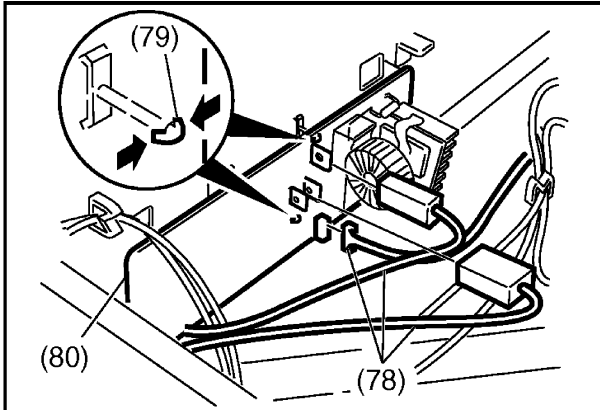
(73) 2 **Screws** (4N).

(74) Remove the **LSU** (1124).

(75) Disconnect 3 **Connectors** on the LSU PC Board.



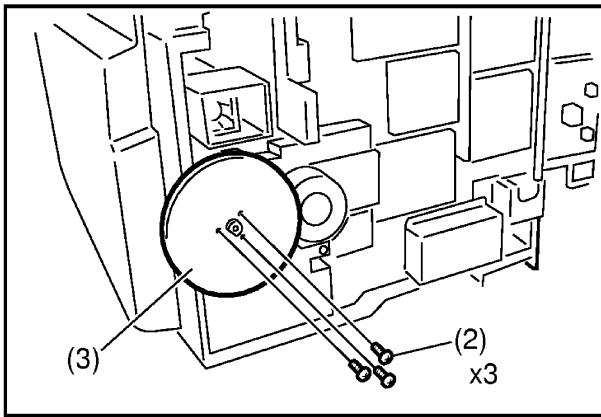
- (76) 2 **Screws** (19).
- (77) Remove the **HTC Cover** (434).



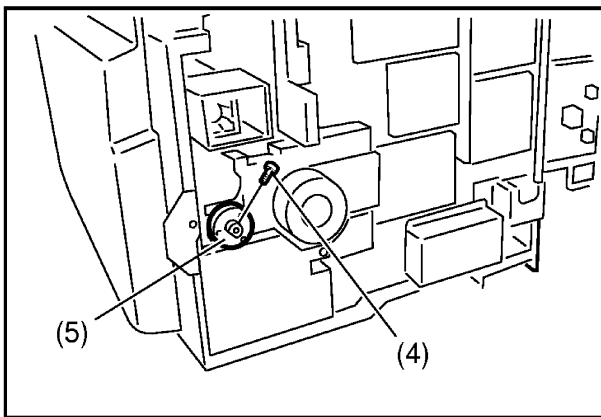
- (78) Disconnect all **Connectors** on the HTC2 PC Board.
- (79) Release 2 **Locking Spacers** (307).
- Note:**  
When re-connecting the Connectors, make sure that the WHITE wire is towards the Rear of the machine.
- (80) Remove the **HTC2 PC Board** (1998).



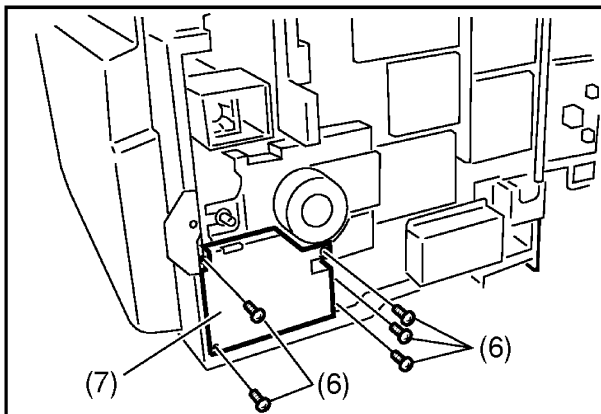
### 2.2.5. High Voltage PSU, SCN PC Board



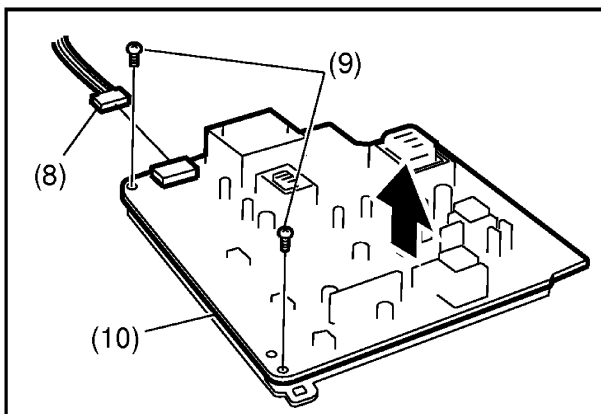
- (1) Open the **Rear Cover Assembly**. (Refer to 2.2.4.)
- (2) 3 **Screws** (23).
- (3) Remove the **Fly Wheel** (922).



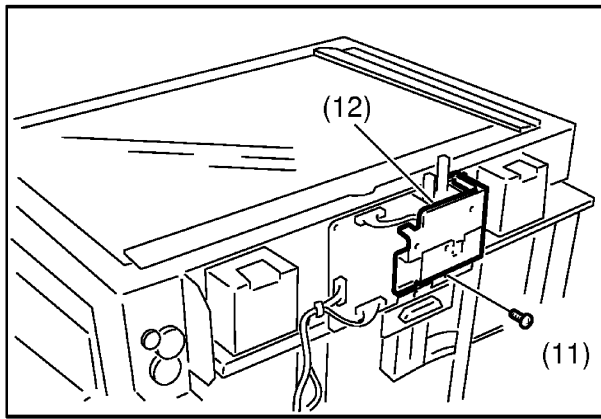
- (4) 1 **Screw** (23).
- (5) Remove the **Fly Wheel Flange** (921).



- (6) 5 **Screws** (19).
- (7) Remove the **HVPS Bracket** (426) Assembly.

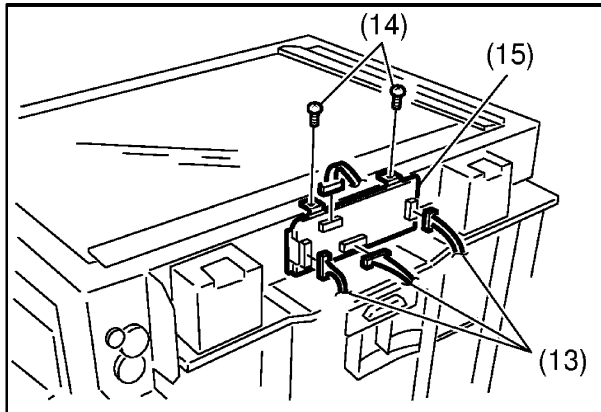


- (8) Disconnect the **Connector CN39** on the High Voltage PSU.
- (9) 2 **Screws** (19).
- (10) Remove the **High Voltage PSU** (451).



(11) 1 **Screw** (19).

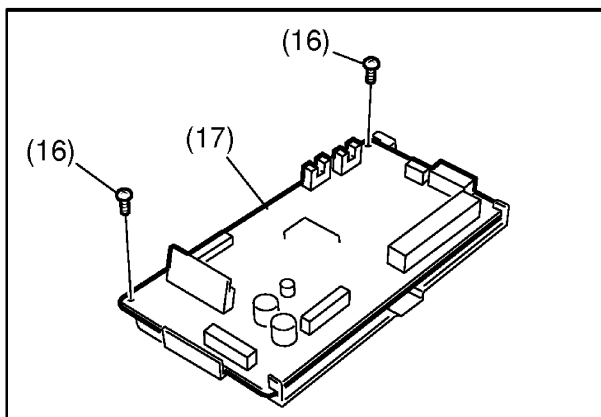
(12) Remove the **CN Bracket** (511) Assembly.



(13) Disconnect all **Connectors** on the SCN PC Board.

(14) 2 **Screws** (19).

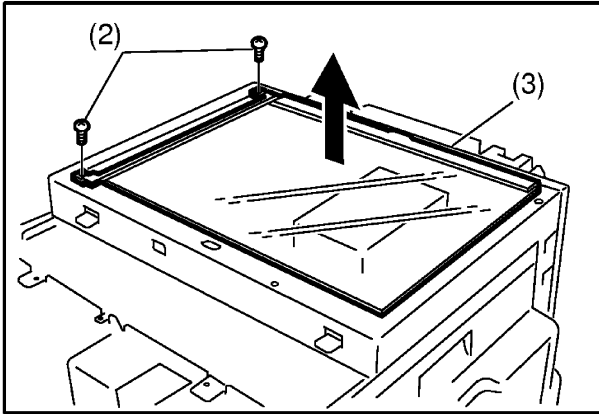
(15) Remove the **SCN PCB Bracket** (515) Assembly.



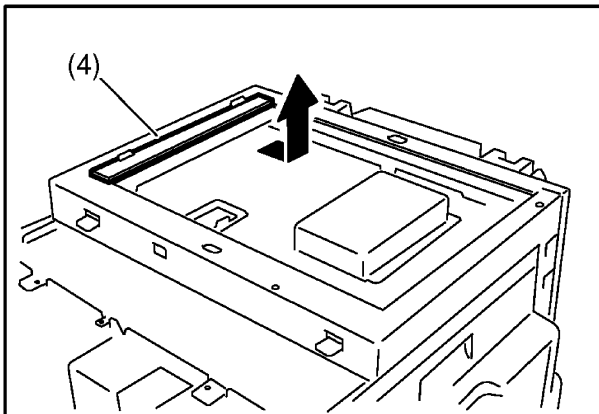
(16) 2 **Screws** (19).

(17) Remove the **SCN PC Board** (19114).

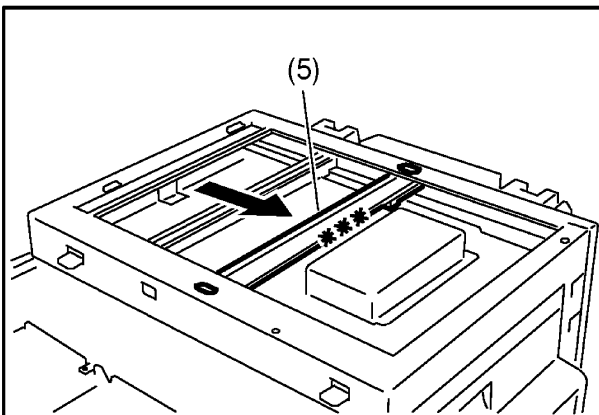
**2.2.6. Glass Assembly, Glass S, Xenon Lamp, Size Sensor 3, Size Sensor 1, Inverter PC Board, FPC Cable, Transmit Motor, CCD Assembly, Slider, Mirror 1, Mirror 2**



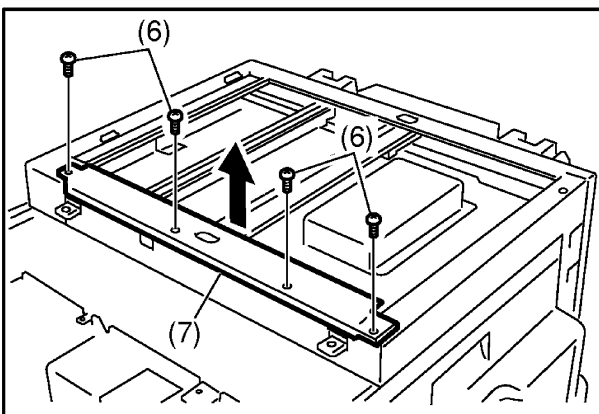
- (1) Remove all **Covers**. (Refer to 2.2.2.)
- (2) 2 **Screws** (19).
- (3) Remove the **Glass Assembly** (557).



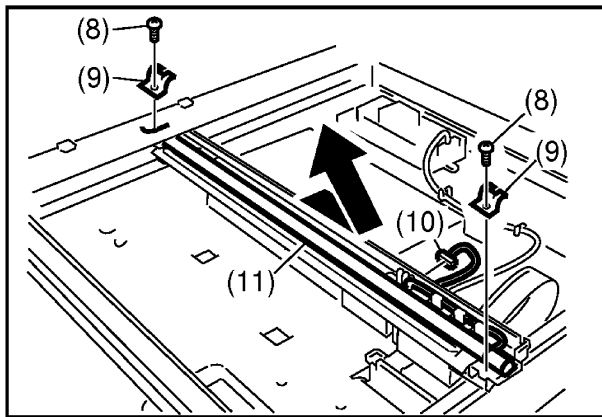
- (4) Remove the **Glass S** (559).



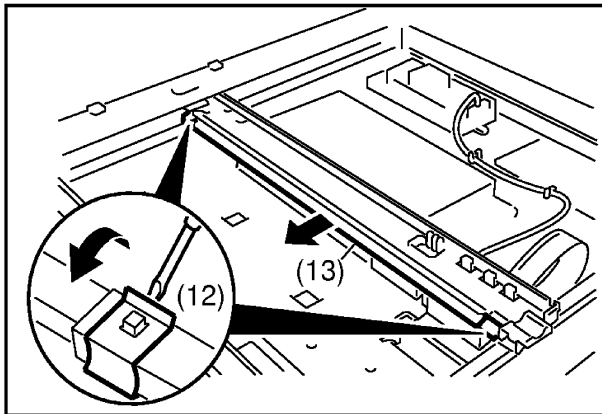
- (5) Holding by the center (as shown by mark \*\*\* on the left), slowly move the **Lamp Base Assembly** to the center of the Scanner Base Frame in the direction shown by the arrow.



- (6) 4 **Screws** (19).
- (7) Remove the **F/R Scanner Frame** (240).



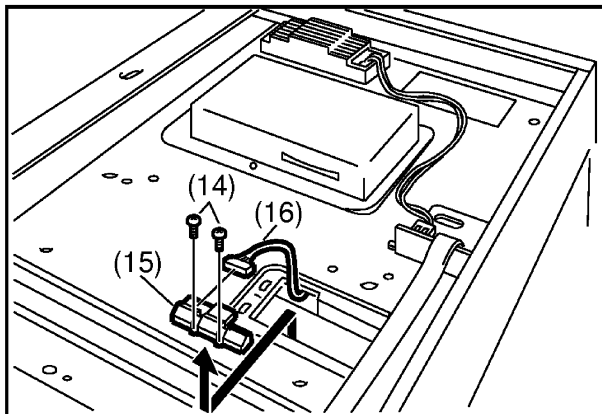
- (8) 2 **Screws** (19).
- (9) Remove the 2 **Lamp Plate Springs** (232).
- (10) Disconnect **Connector CN181** on the LFB PC Board.
- (11) Remove the **Xenon Lamp** (204).



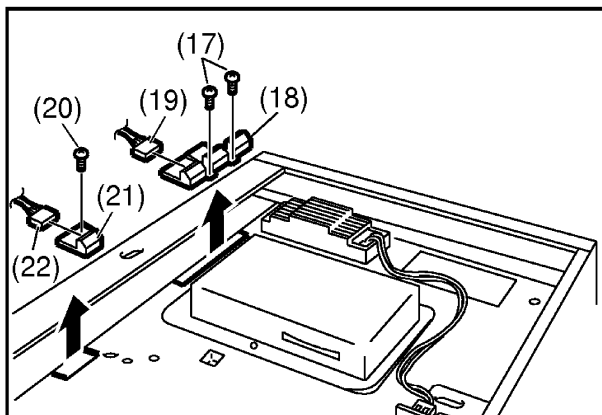
- (12) Remove 2 **Mirror Plate Springs** (230).
- (13) Remove **Mirror 1** (264).

**Note:**

Observe the position of the Mirror 1 before removing it. The Black Mark on the Mirror, indicates non-reflective side. When re-installing, make sure the smooth side of Mirror 1 with the Black Mark is pointing downwards.



- (14) 2 **Screws** (19).
- (15) Remove the **Size Sensor 3** (269).
- (16) Disconnect the **Size Sensor 3 Connector**.

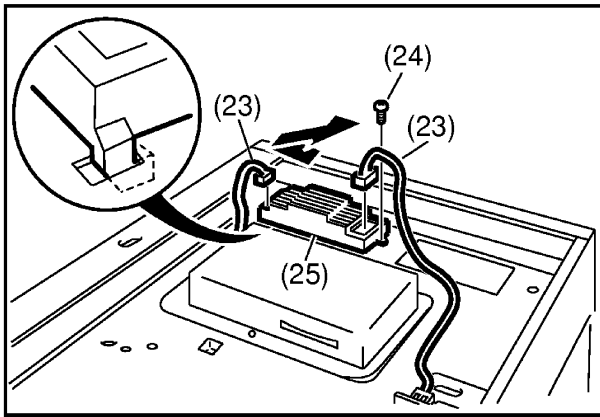


- (17) 2 **Screws** (19).
- (18) Remove the **Size Sensor 3** (269).
- (19) Disconnect the **Size Sensor 3 Connector**.
- (20) 1 **Screw** (19).
- (21) Remove the **Size Sensor 1** (275).
- (22) Disconnect the **Size Sensor 1 Connector**.

**Note:**

When replacing the Size Sensor 1 (275), Size Sensor 3 (269) or SC PC Board (1983), perform the following procedure for sensor output adjustment.

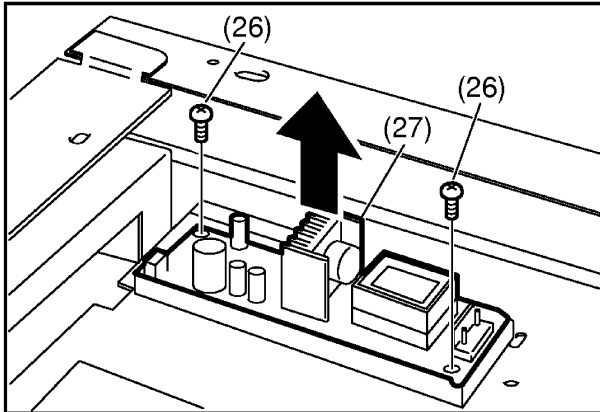
- 1) Place a blank A3 or Ledger size original on the Platen.
- 2) Execute Copier Service Mode F8-12



(23) Disconnect **Connectors CN1** and **CN2** on the Inverter PC Board.

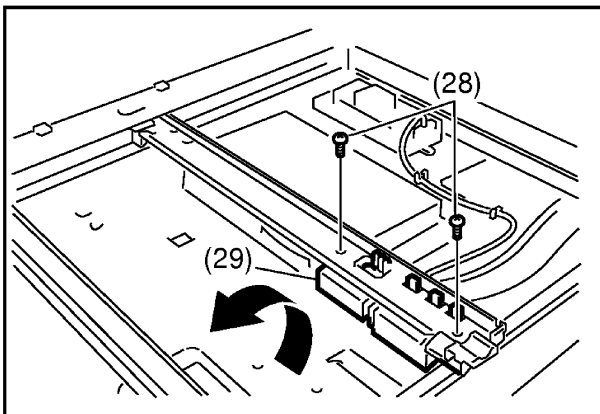
(24) 1 **Screw** (19).

(25) Remove the **Inverter Upper Cover** (212).



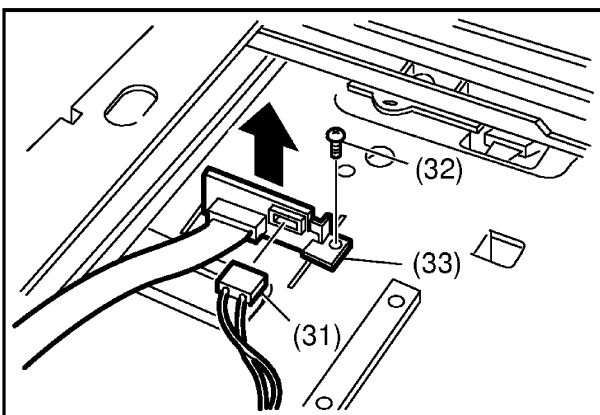
(26) 2 **Screws** (19).

(27) Remove the **Inverter PC Board** (268).



(28) 2 **Red Screws** (D24).

(29) Remove the **FPC Cable Holder A** (215) Assembly.

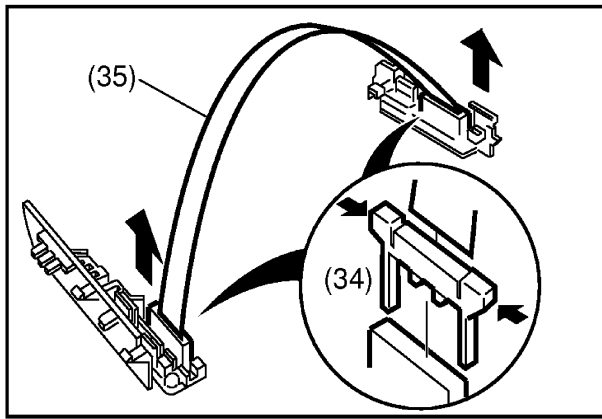


(30) Holding by the center, slowly move the **Lamp Base Assembly** towards the left of the Scanner Base Frame.

(31) Disconnect **Connector CN181** on the LFB PC Board.

(32) 1 **Screw** (19).

(33) Remove the **FPC Cable Holder B** (216) Assembly.

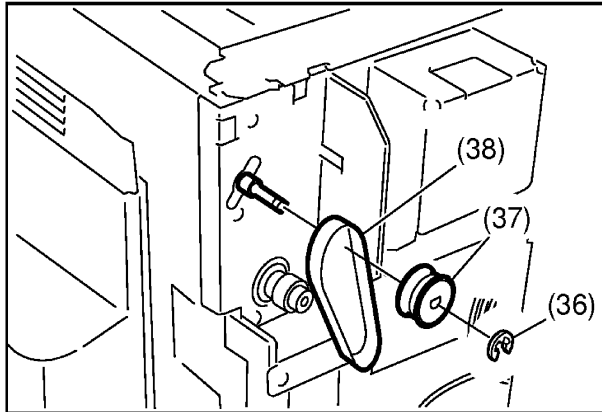


(34) Remove 2 **Sliders** on the Connectors.

(35) Remove the **FPC Cable** (260).

**Note:**

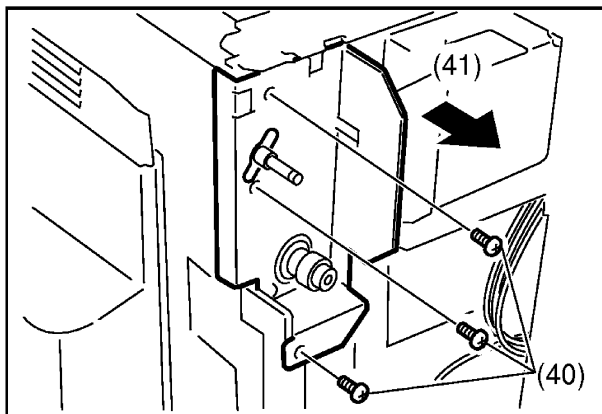
The Sliders must be re-installed when reassembling.



(36) Remove the **E-Clip** (5Y).

(37) Remove the **MXL34 Pulley** (217).

(38) Remove the **Synchro Belt** (208)



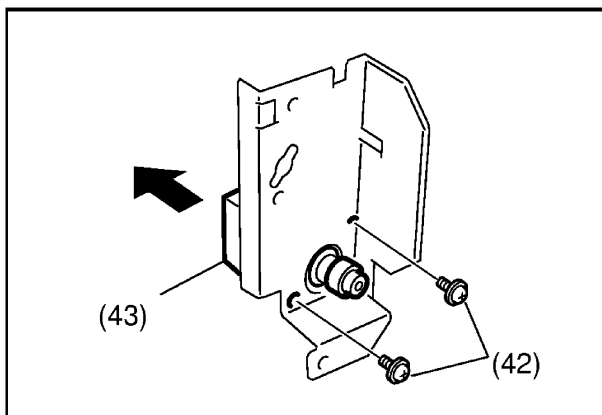
(39) Disconnect the **Transmit Motor Connector**.

(40) 3 **Screws** (19).

(41) Remove the **Motor Bracket** (249) Assembly.

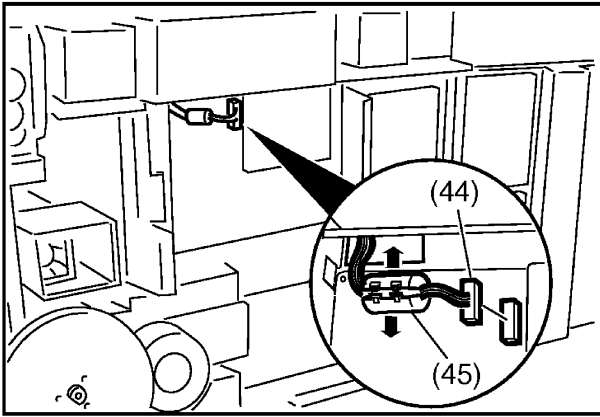
**Note:**

When re-installing the Motor Bracket, tighten the upper screw first.

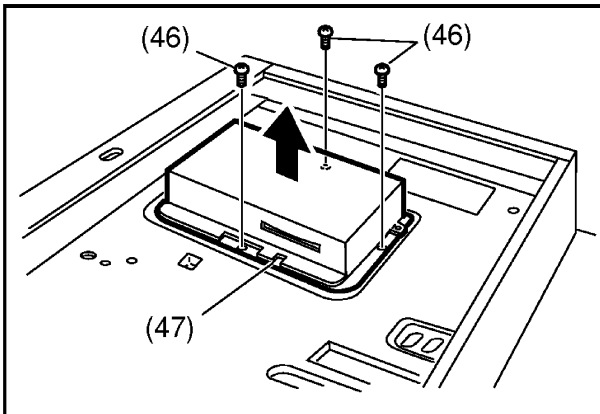


(42) 2 **Screws** (36).

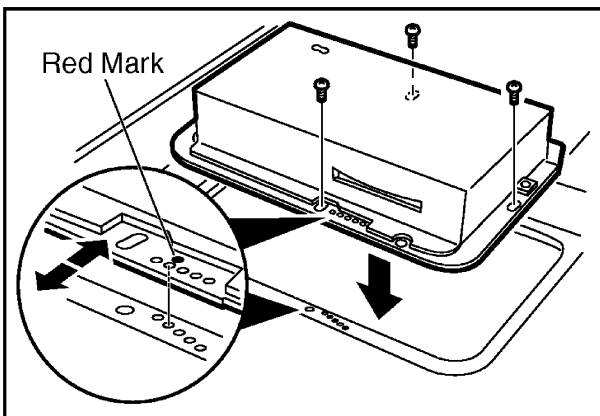
(43) Remove the **Transmit Motor** (201).



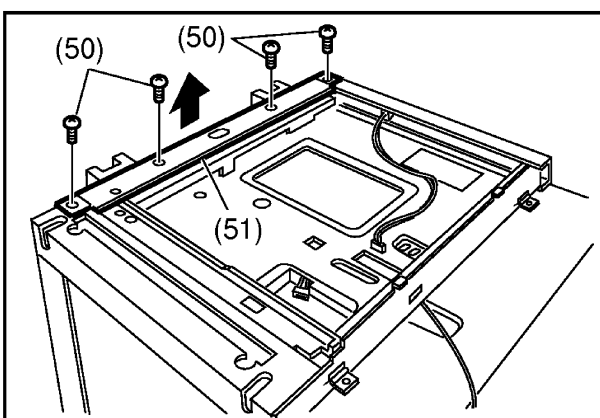
- (44) Disconnect **Connector CN106** on the SC PC Board.
- (45) Release 2 **Latch Clips** and remove the **Ferrite Core**.



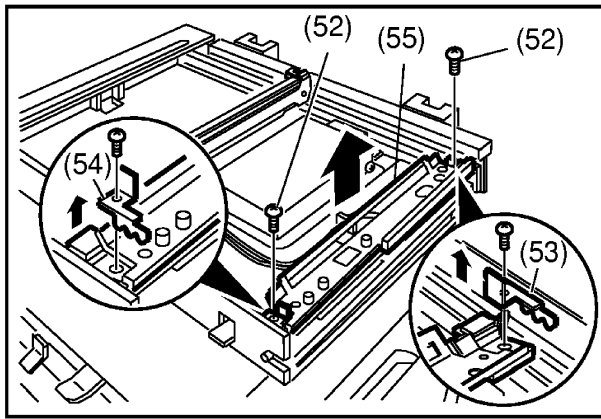
- (46) 3 **Red Screws** (D24).
- (47) Remove the **CCD Assembly** (207).



- Note:**  
When re-installing the CCD Assembly, align the hole with the Red Mark on the CCD Assembly with the hole on the Scanner Base Frame as shown in the illustration at left and secure it with 3 Red Screws.



- (48) Open the **Rear Cover Assembly**. (Refer to 2.2.4.)
- (49) Remove the **SCN PC Board**. (Refer to 2.2.5.)
- (50) 4 **Screws** (19).
- (51) Remove the **F/R Scanner Frame** (240).

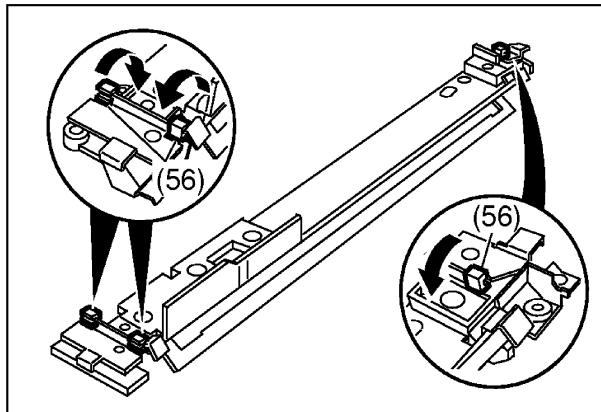


(52) 2 **Red Screws** (D24).

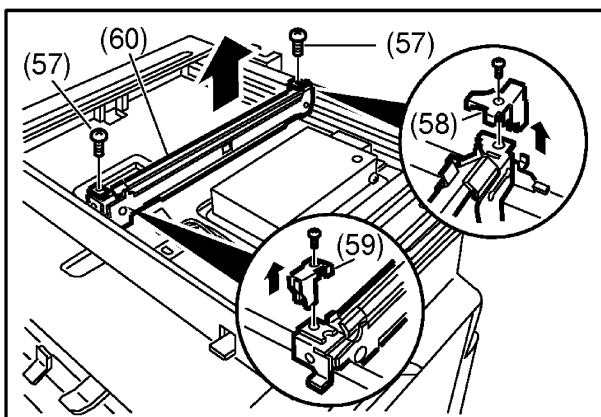
(53) Remove the **Rear Lamp Belt Lock** (228).

(54) Remove the **Front Lamp Belt Lock** (227).

(55) Remove the **Lamp Base Bracket** (224) Assembly.



(56) Remove the 3 **Sliders** (211).

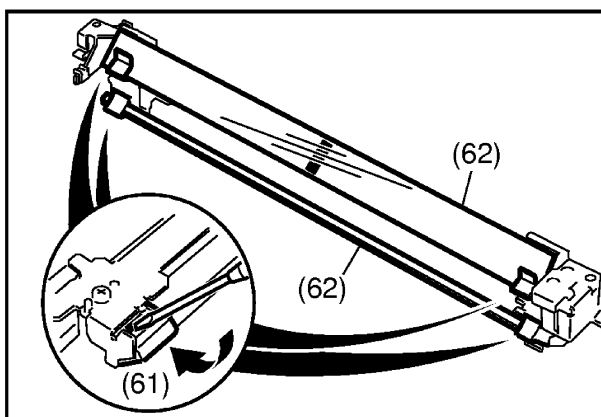


(57) 2 **Screws** (18).

(58) Remove the **Rear Mirror Belt Lock** (238).

(59) Remove the **Front Mirror Belt Lock** (236).

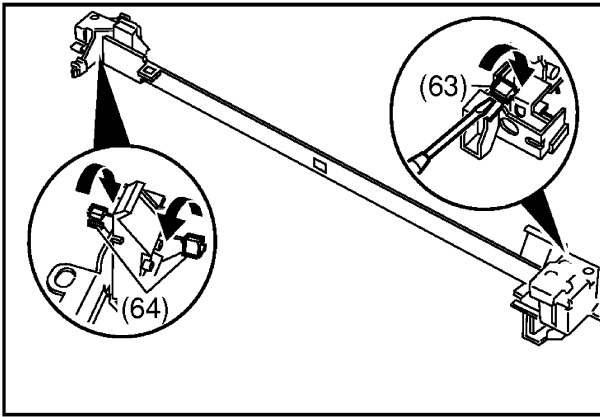
(60) Remove the **Mirror 2 Bracket** (233) Assembly.



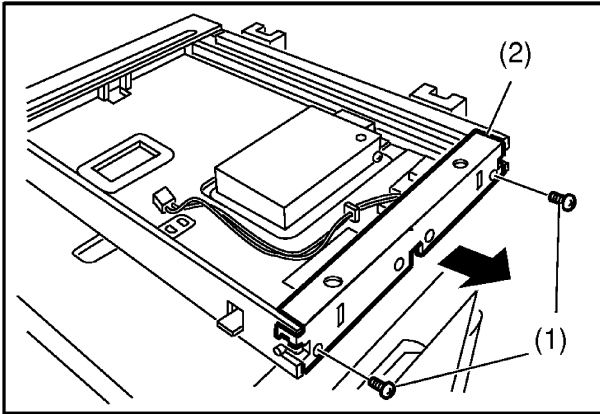
(61) Remove the 4 **Mirror 2 Plate Springs** (206).

(62) Remove the two **Mirror 2** (265).





- (63) Remove the **Slider** (211) on the right.  
 (64) Remove the 2 **Sliders** (211) on the left.

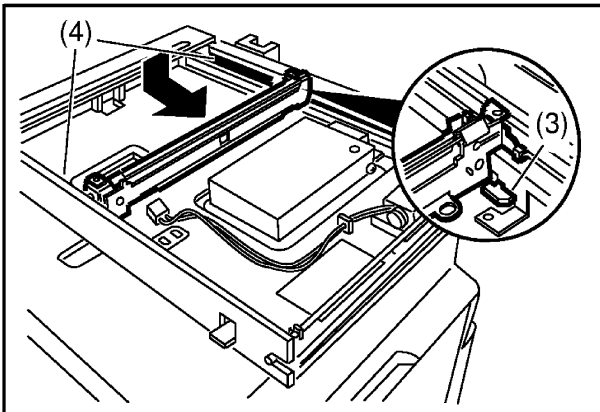


<Procedure for re-installing the Lamp Base Assembly and the Mirror 2 Bracket Assembly>

- (1) 2 **Screws** (19).  
 (2) Remove the **Right Scanner Frame** (242).

**Note:**

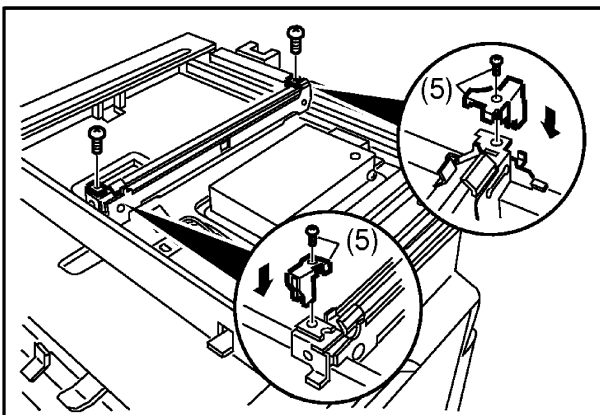
When re-installing the Right Scanner Frame, tighten the 2 Screws after re-installing both sides of the F/R Scanner Frame.



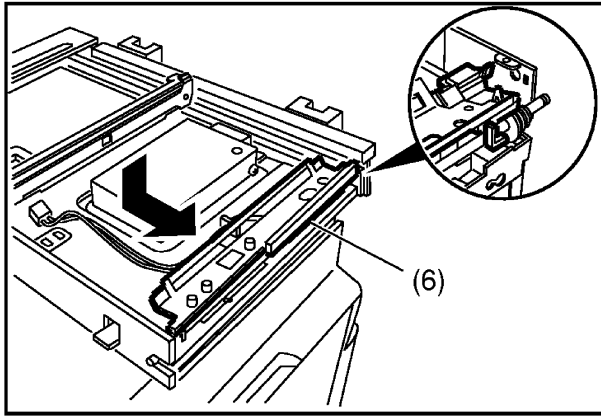
- (3) Install the **Mirror 2 Bracket** (233) Assembly.  
 (4) Re-install the 2 **Belts**.

**Note:**

The Bracket must be adjusted by moving it towards the center until it stops against the notches in the frame.



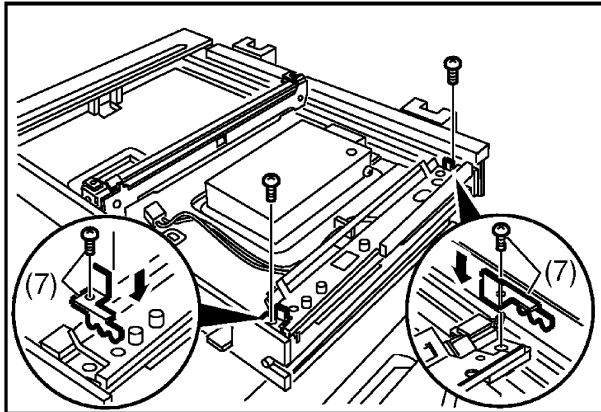
- (5) While holding each side of the Bracket against the notch, secure the **Rear Mirror Belt Lock** (238) and the **Front Mirror Belt Lock** (236) with 2 **Screws** (18).



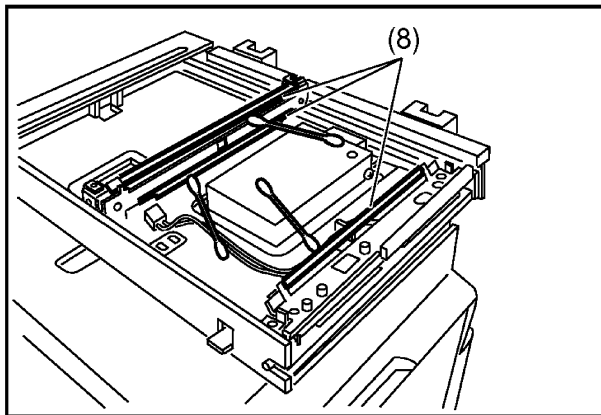
- (6) Install the **Lamp Base Bracket (224) Assembly**.

**Note:**

The Bracket must be adjusted by moving it towards the right edge until it stops against the notches in the frame. Make sure that the Mirror 2 Bracket Assembly is positioned in the notches in the center of the frame.

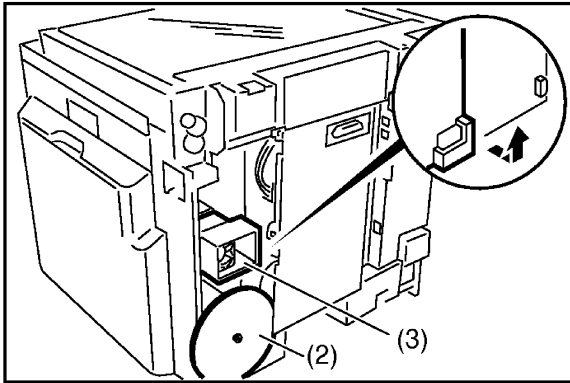


- (7) While holding each side of the Bracket against the notch, secure the **Rear Lamp Belt Lock (228)** and the **Front Lamp Belt Lock (227)** with **2 Red Screws (D24)**.

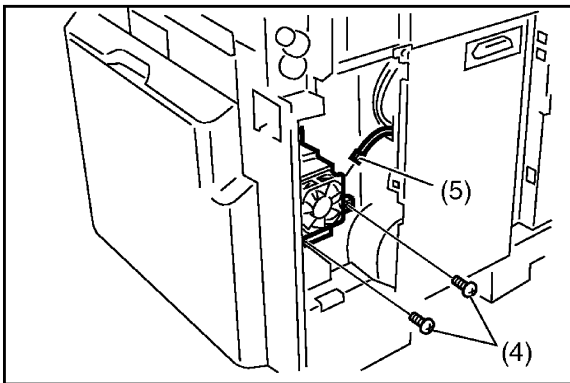


- (8) Clean **Mirror 1** and both **Mirrors 2** with a soft cloth, saturated with isopropyl alcohol.

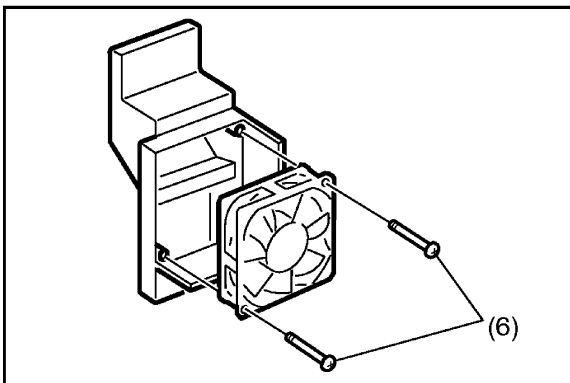
**2.2.7. Fan, Printer Motor, Lift Motor, Clutch, Bias Transfer Roller, Registration Pinch Roller, Roller Cleaner, Registration Roller, Toner Sensor, Paper Feed Roller, C25 Gear Roller, Feed Roller, Separator Holder pad, LSU, Micro Switch, Reverse Clutch, Spring A**



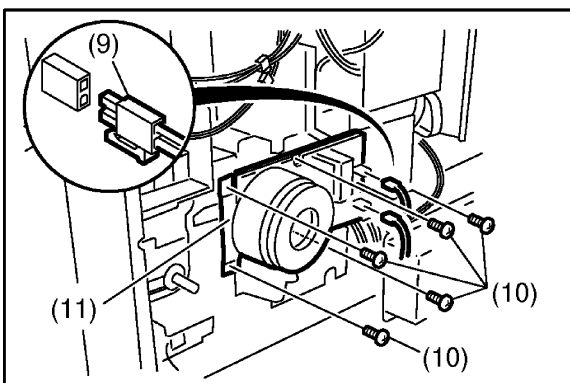
- (1) Remove all **Covers**. (Refer to 2.2.2.)
- (2) Remove the **Fly Wheel** (Refer to 2.2.5.)
- (3) Remove the **Fan Duct B** (1108).



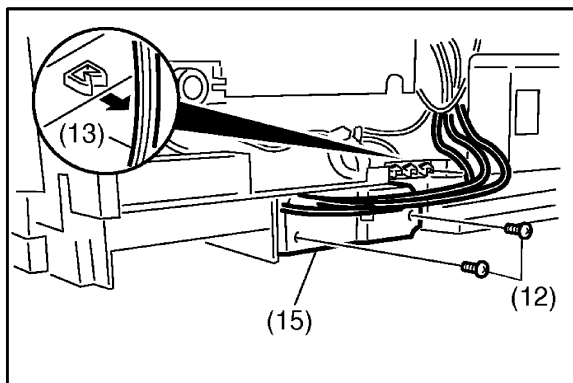
- (4) 2 **Screws** (19).
- (5) Disconnect the **Fan Connector** and remove the **Fan** (1126) Assembly.



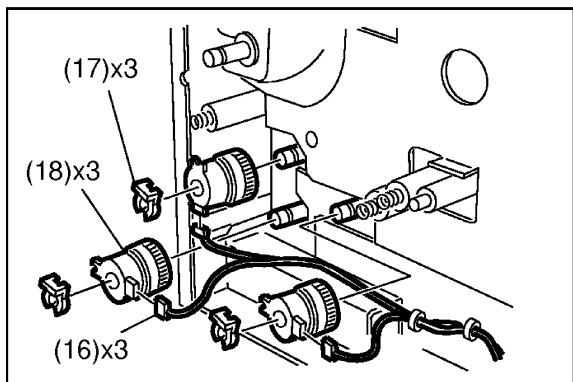
- (6) 2 **Screws** (E6) and remove the **Fan** (1126) Assembly.



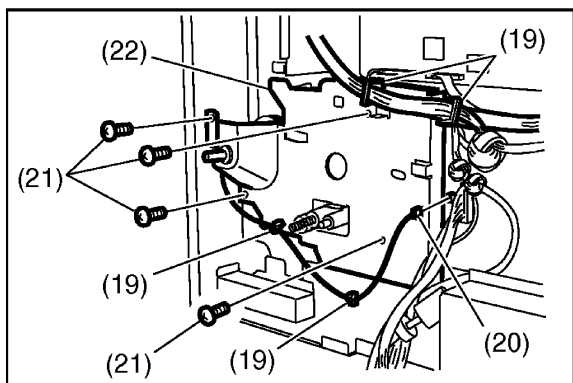
- (7) Open the **Rear Cover Assembly**. (Refer to 2.2.4.)
- (8) Remove the **HVPS Bracket** (426) Assembly. (Refer to 2.2.5.)
- (9) Disconnect **Connectors CN1** and **CN2** on the Printer Motor.
- (10) 5 **Screws** (19).
- (11) Remove the **Printer Motor** (901).



- (12) 2 **Screws** (19).
- (13) Remove all **Harnesses** from the clamps.
- (14) Disconnect **Connector CN706** on the LPC PC Board.
- (15) Remove the **Lift DC Motor** (1152) Assembly.

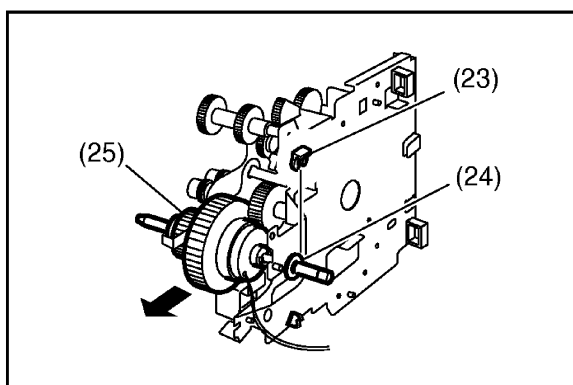


- (16) Disconnect the **Connector** on each of the 3 Clutches.
- (17) Remove 3 **Snap Rings** (B9).
- (18) Remove 3 **Clutches** (1260).

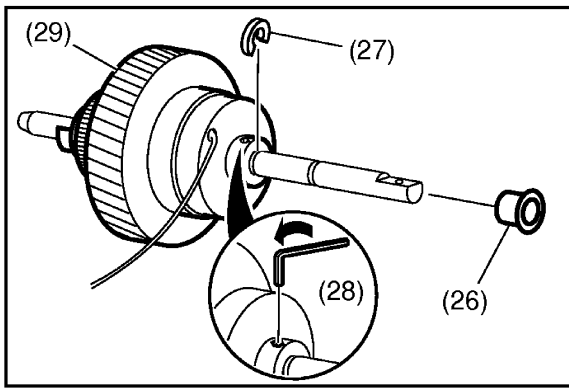


**< For DP-3000 only - Steps 19 - 29 >**

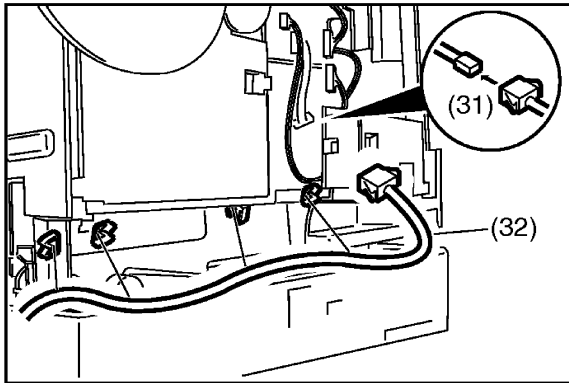
- (19) Remove the **Harnesses** from 4 clamps.
- (20) Disconnect the **Connector CN733** on the LPC PC Board.
- (21) 4 **Screws** (19).
- (22) Remove the **Printer Motor Bracket** (919).



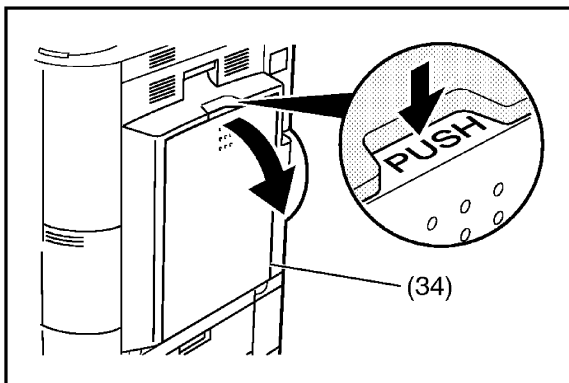
- (23) Remove the the **Snap Ring** (B9).
- (24) Remove the **Bearing** (914).
- (25) Remove the **Clutch** (950) Assembly.



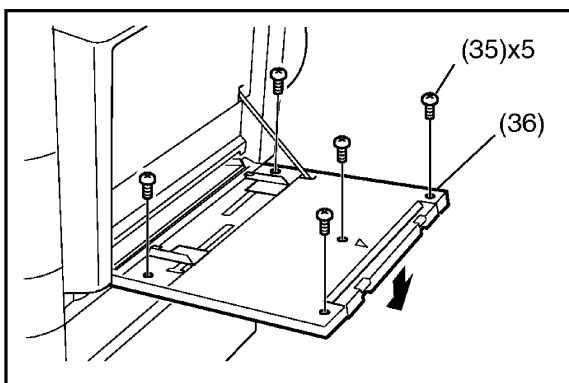
- (26) Remove the **Discharge Bushing** (946).
- (27) Remove the the **Snap Ring** (B9).
- (28) Loose the **Hexagon Socket Head Bolt** using a Hexagonal wrench as shown on the left.
- (29) Remove the **Clutch** (950).



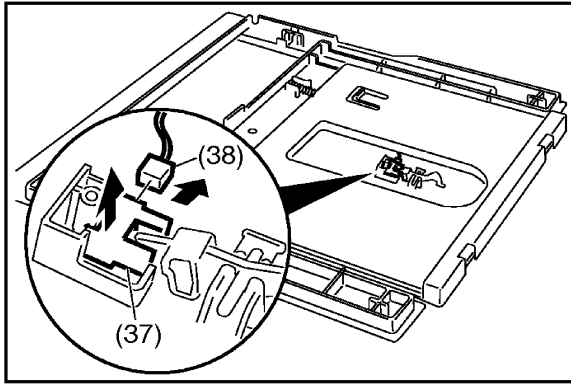
- (30) Open the **Right Cover** (1201) Assembly.
- (31) Disconnect **Multi SNS 1 Harness** (1947) from the **Multi SNS 2 Harness** (1949).
- (32) Remove the **Harnesses** from 4 clamps.



- (33) Close the **Right Cover** (1201) Assembly.
- (34) Open the **Tray Cover** (1204) Assembly.

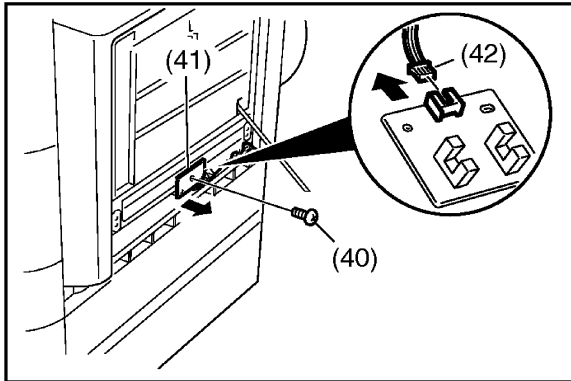


- (35) 5 **Screws** (B1).
- (36) Remove the **Tray Cover** (1204).



(37) Remove the **Sheet Bypass Paper Length Sensor** (1045).

(38) Disconnect the **Sensor Connector**.

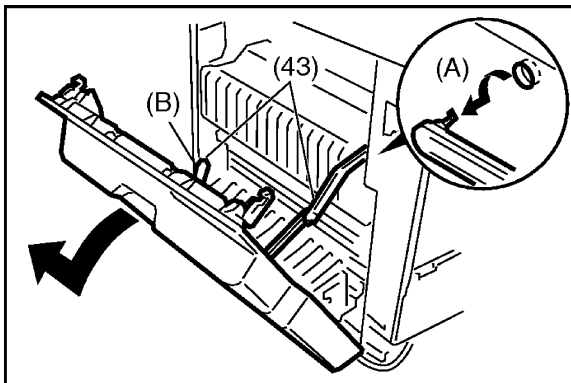


(39) Close the **Insertion Tray** (1205) back in place.

(40) 1 **Screw** (19).

(41) Remove the **SNS PC Board** (19116).

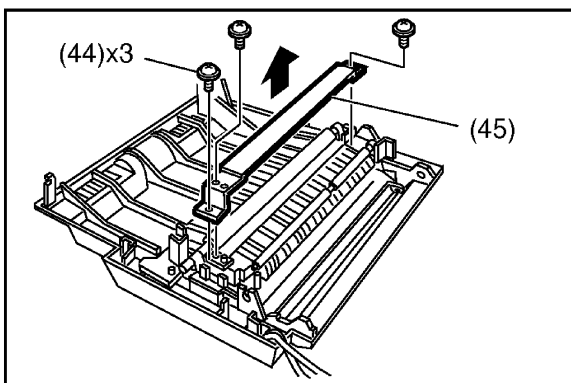
(42) Disconnect the **Multi SNS 2 Harness** (1949).



(43) Unhook the **Rear Arm** (1219) and the **Front Arm** (1217) first as shown on the left and then remove the **Right Cover** (1201) Assembly in the direction of the arrow.

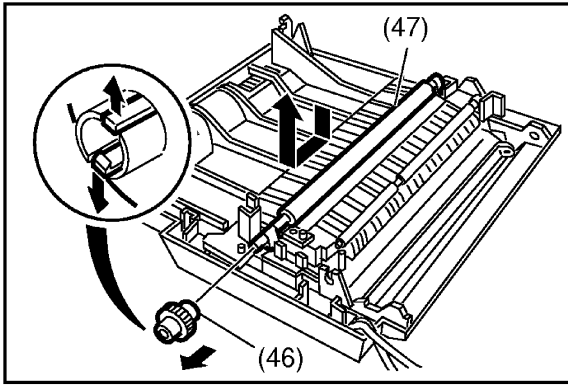
**Note:**

Please remove the Right Cover completely to prevent damage that could cause duplex skewing and jamming.



(44) 3 **Screws** (C8).

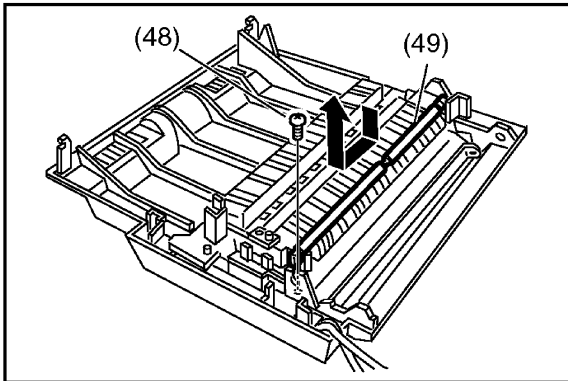
(45) Remove the **BTR Guide** (1223).



- (46) Remove the **BTR Gear** (1234).
- (47) Remove the **Bias Transfer Roller** (1221).

#### **Cleaning Bias Transfer Roller**

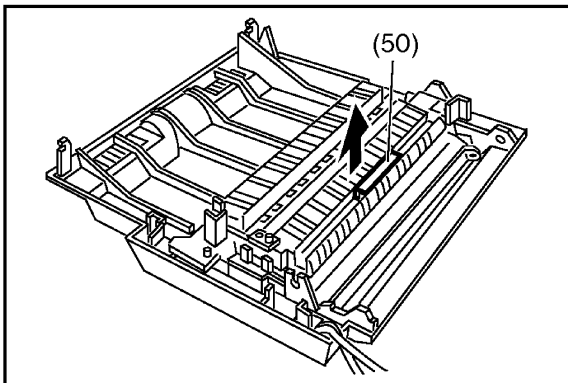
Clean the surface of the Bias Transfer Roller only with a soft dry cloth.



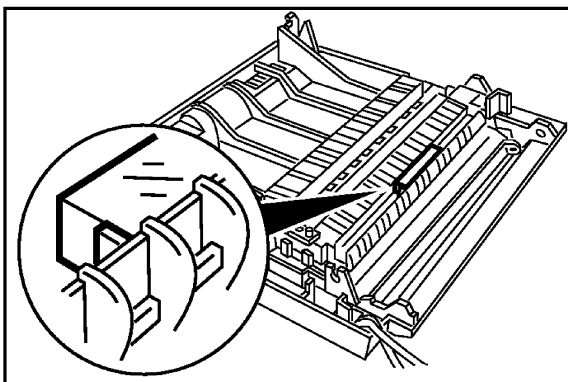
- (48) 1 **Screw** (19).
- (49) Remove the **Registration Pinch Roller** (1222).

#### **Cleaning Registration Pinch Roller**

Clean the surface of the Registration Pinch Roller with a soft cloth, saturated with isopropyl alcohol.

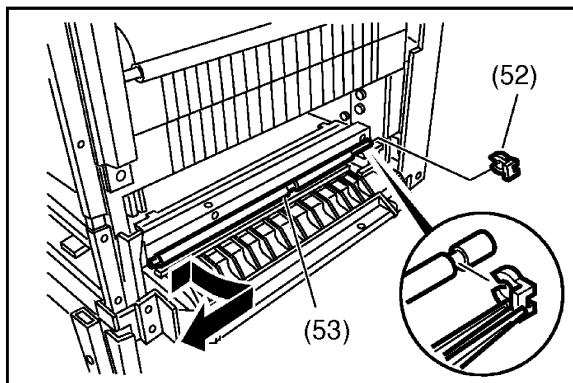


- (50) Remove the **Roller Cleaner** (1229).



#### **Note:**

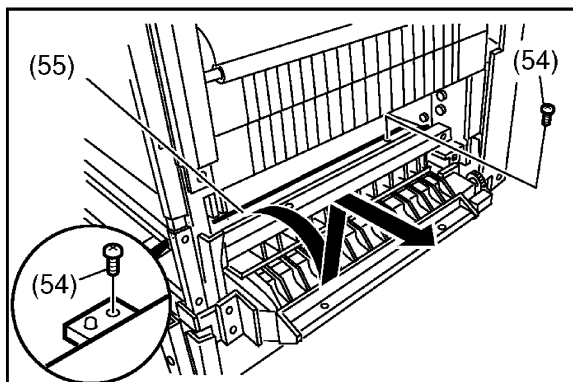
When installing the Roller Cleaner, make sure that there is no space between the rib and the Roller Cleaner as shown on the left.



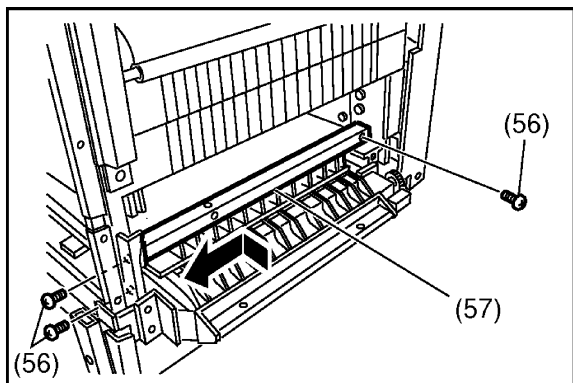
- (51) Remove the **Process Assembly**. (Refer to 2.2.9.)
- (52) Remove the **Snap Ring** (B9).
- (53) Remove the **Registration Roller** (1121).

#### **Cleaning Registration Roller**

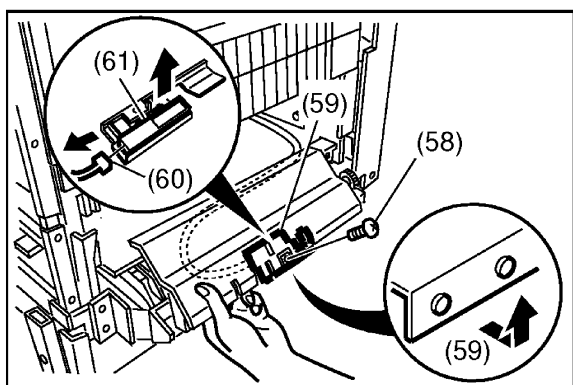
Clean the surface of the Registration Roller with a soft cloth, saturated with isopropyl alcohol.



- (54) 2 **Screws** (19).
- (55) Remove the **Toner Sensor Holder** (1104) by pulling the left edge upwards and pushing it towards the left to release the 2 Bosses.

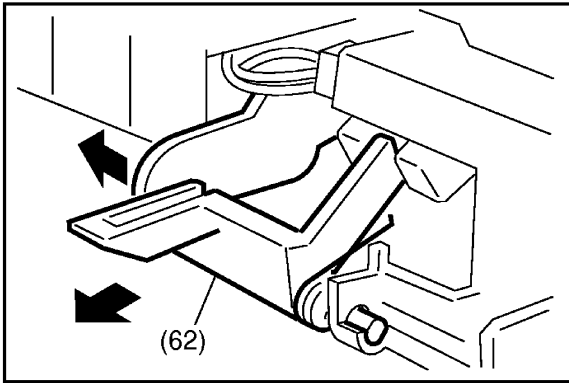


- (56) 3 **Screws** (19).
- (57) Remove the **R1 Paper Tray Guide** (1112).

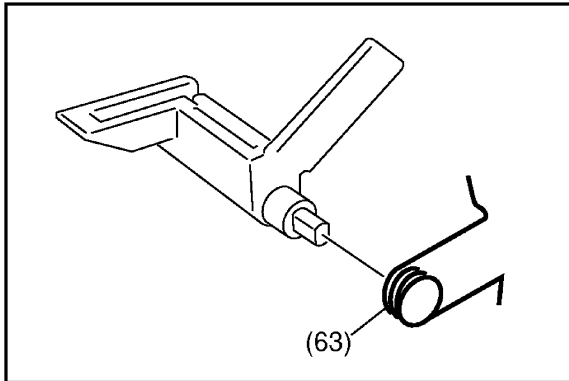


- (58) 1 **Screw** (19).
- (59) Remove the **Toner Sensor Spring** (1115) Assembly.
- (60) Disconnect the **Sensor Connector**.
- (61) Remove the **Toner Sensor** (1123).

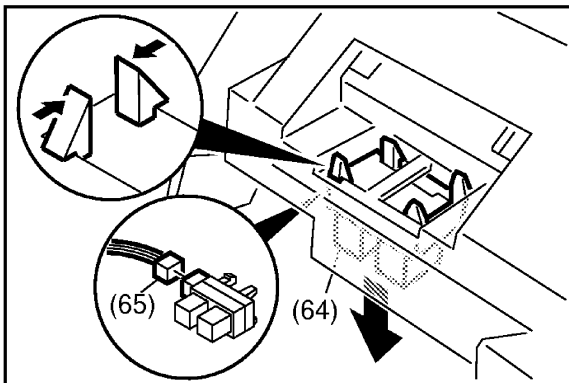




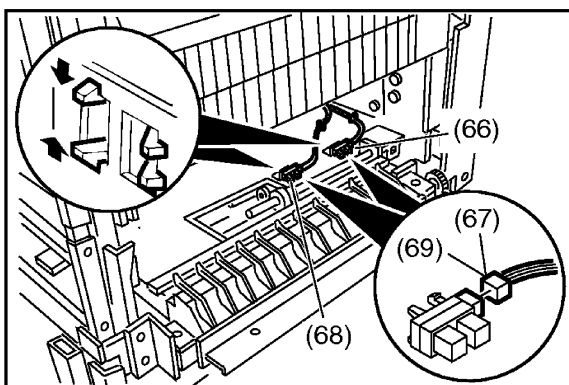
(62) Push the arm of the Sensor Holder slightly to the left and remove the **Registration Actuator** (1120).



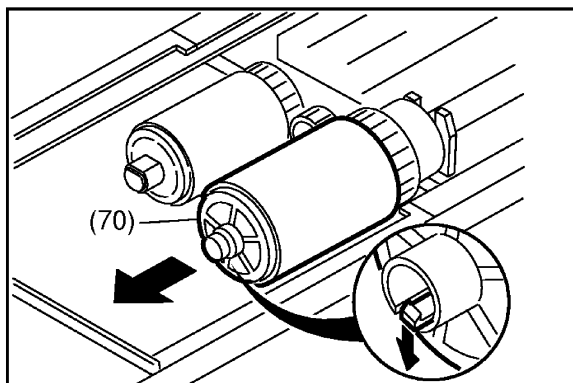
(63) Remove the **Registration Actuator Spring** (1122).



(64) Remove the **Registration Sensor** (1045).  
(65) Disconnect the **Sensor Connector**.



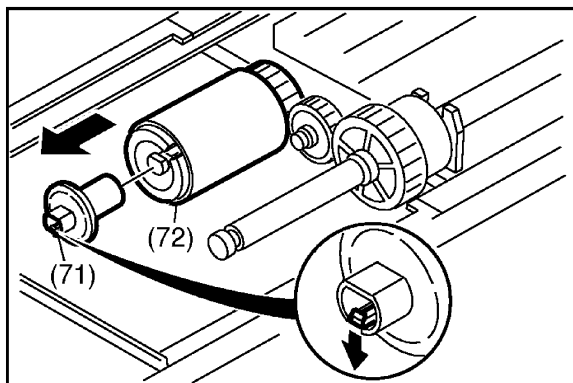
(66) Remove the **Paper Level Sensor** (1045).  
(67) Disconnect the **Sensor Connector**.  
(68) Remove the **NP Sensor** (1045).  
(69) Disconnect the **Sensor Connector**.



- (70) Slide out the Paper Tray. When removing the Paper Tray, the Paper Feed Roller can be handled from the opening of the Paper Tray Frame. Remove the **Paper Feed Roller (1144)** from the opening.

#### **Cleaning Paper Feed Roller**

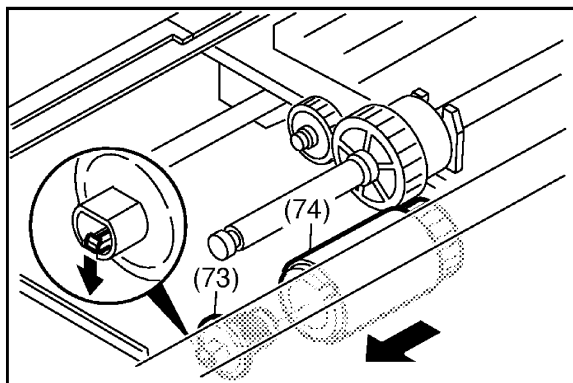
Clean the surface of the Paper Feed Roller with a soft cloth, saturated with isopropyl alcohol.



- (71) Remove the **Reverse Clutch (1132)**.  
(72) Remove the **C25 Gear Roller (1145)**.

#### **Cleaning C25 Gear Roller**

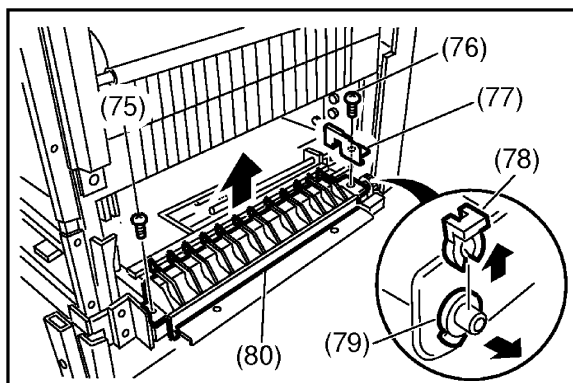
Clean the surface of the C25 Gear Roller with a soft cloth, saturated with isopropyl alcohol.



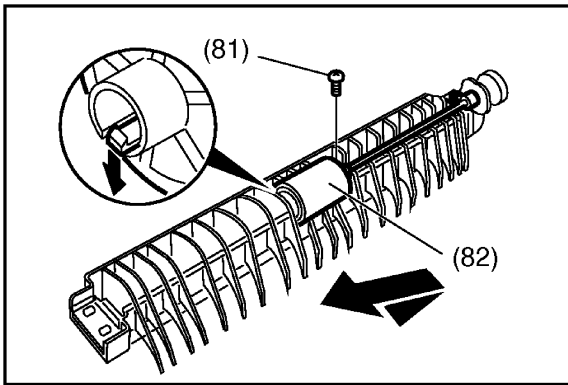
- (73) Remove the **Reverse Clutch (1132)** and **Spring A (1146)**.  
(74) Remove the **C25 Gear Roller (1145)**.

#### **Cleaning C25 Gear Roller**

Clean the surface of the C25 Gear Roller with a soft cloth, saturated with isopropyl alcohol.



- (75) 1 **Screw (19)**.  
(76) 1 **Screw (1Y)**.  
(77) Remove the **Lock Plate (1266)**.  
(78) Remove the **Snap Ring (B9)**.  
(79) Remove the **P6L5 Conductive Bushing (1151)**.  
(80) Remove the **Dual-Path Guide (1203)**.

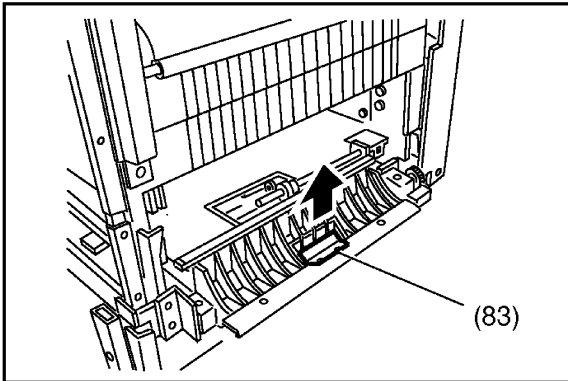


(81) 1 **Screw** (19).

(82) Remove the **Feed Roller** (1244).

#### **Cleaning Feed Roller**

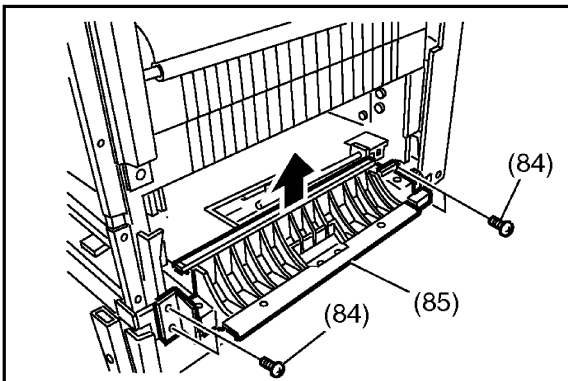
Clean the surface of the Feed Roller with a soft cloth, saturated with isopropyl alcohol.



(83) Remove the **Separator Holder Pad** (1242).

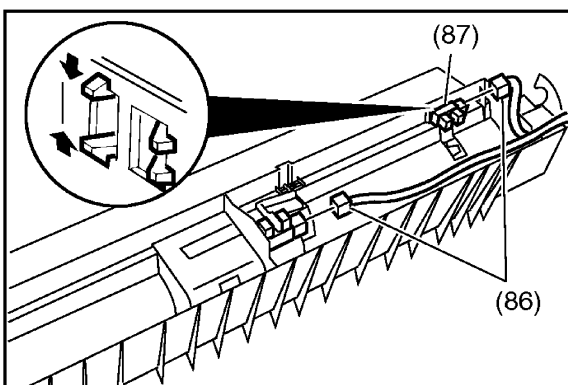
#### **Cleaning Separator Holder Pad**

Clean the rubber surface of the Separator Holder pad with a soft cloth, saturated with isopropyl alcohol.



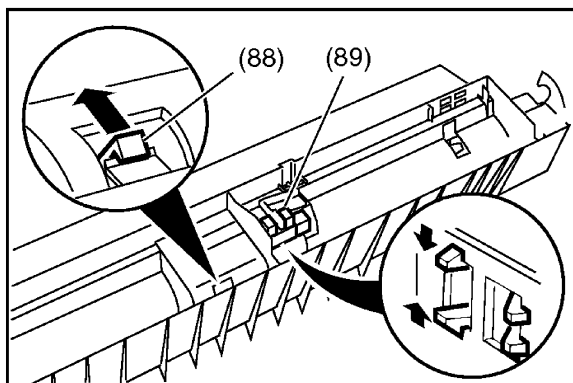
(84) 4 **Screws** (19).

(85) Remove the **Tray Guide** (1202).



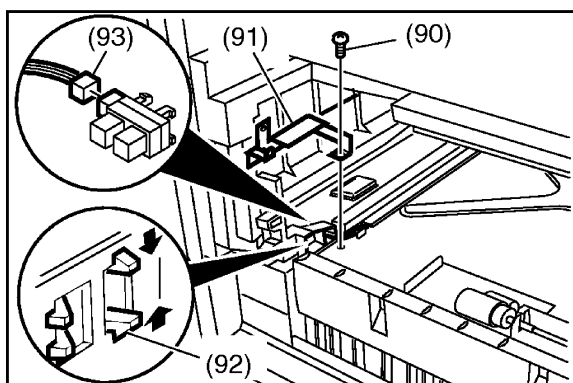
(86) Disconnect 2 **Sensor Connectors**.

(87) Remove the **Bottom Plate Sensor** (1045).



(88) Release the Hook on the Tray Guide.

(89) Remove the **NP Sensor** (1045).

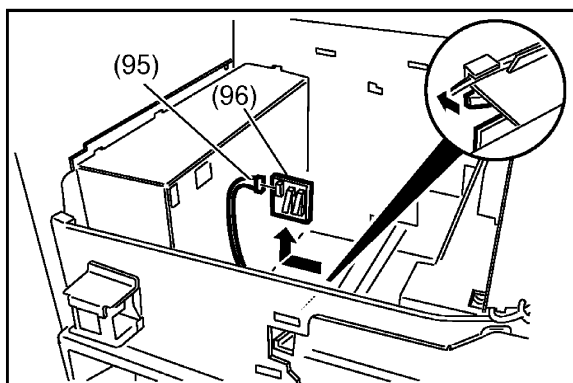


(90) 1 **Screw** (19).

(91) Remove the **Sensor Cover** (1116).

(92) Remove the **Waste Toner Box Sensor** (1045).

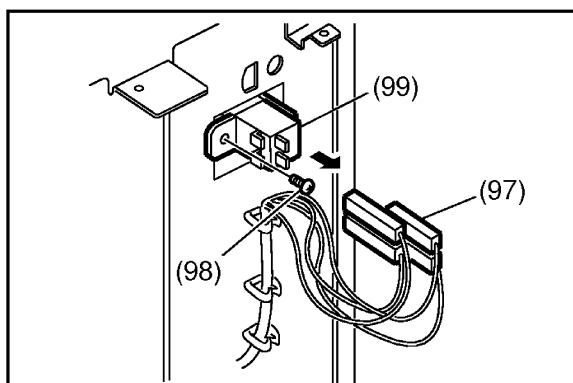
(93) Disconnect the **Sensor Connector**.



(94) Remove the **LSU** (1124). (See Sect. 2.2.4.)

(95) Disconnect **Connector CN750** on the ILS PC Board.

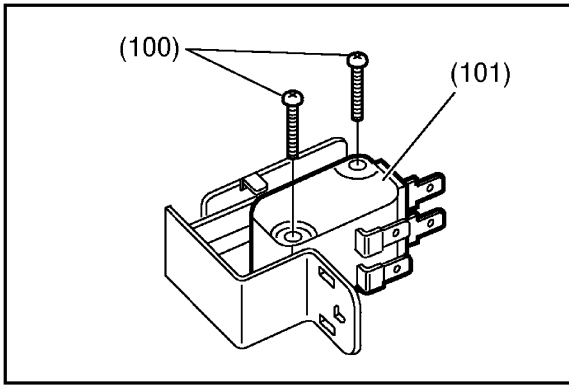
(96) Remove the **ILS PC Board** (19124).



(97) Disconnect 2 **Micro Switch Connectors**.

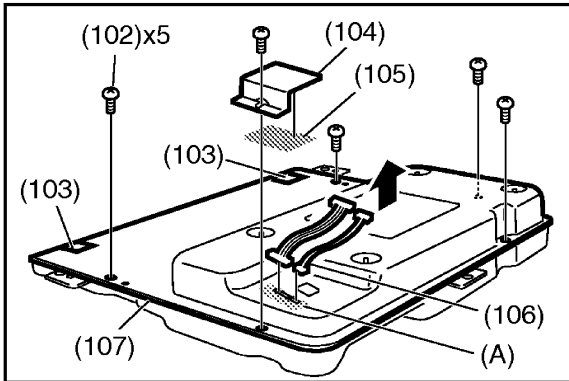
(98) 1 **Screw** (19).

(99) Remove the **ILS Holder** (460) Assembly.



(100)2 **Screws** (E5).

(101)Remove the **Micro Switch** (461).



#### <Cleaning Mirrors and Lenses on the LSU>

(102)5 **Screws** (F5).

(103)Remove 2 **Cover Springs** (1176).

(104)Remove the **Dust Cover F** (1178)

(105)Remove the **LD Sponge F** (1179).

(106)Disconnect 2 **LD Extension Harnesses** (19146, 19147).

#### **Note:**

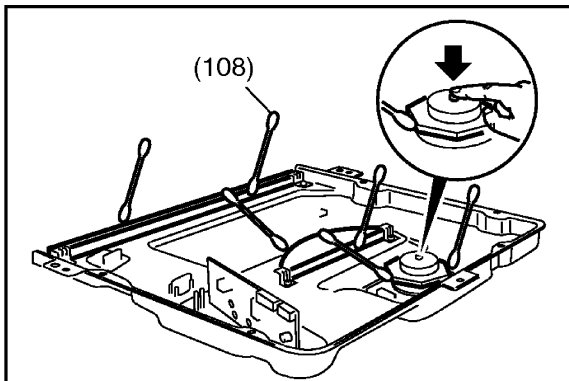
Do NOT remove the **LD Sheet** (1180) as shown in (A) on the left.

(107)Remove the **LSU Cover**.

(108)Clean the **Polygon Mirror** and 2 **Lenses** on the LSU with a soft cloth, saturated with isopropyl alcohol.

#### **Note:**

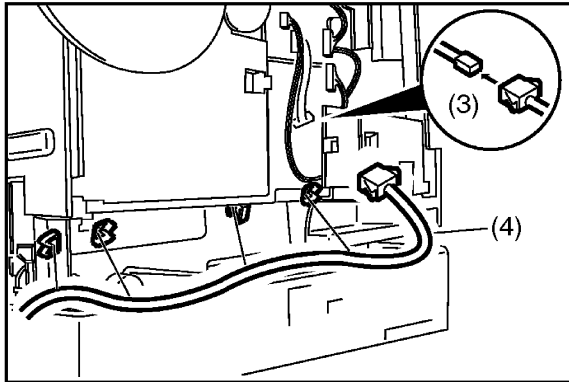
Push the top of the screw on the Polygon Mirror gently as shown on the left when cleaning the Polygon Mirror. Do not touch other parts of the Polygon Mirror while cleaning.



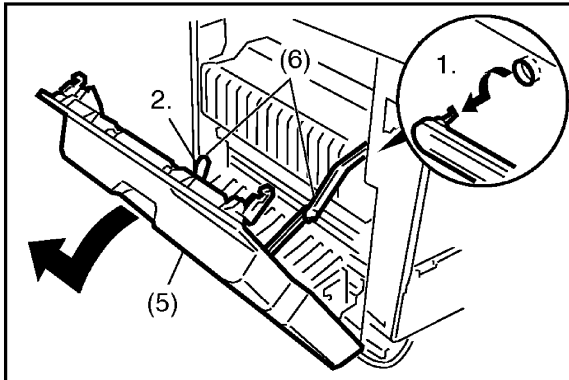
## 2.2.8. Fuser Unit, Fuser Lamp, Thermistor Assembly, Thermal Fuse, Thermostat, Exit Roller, Pressure Roller, Fuser Roller, Insulation Bushing, Separation, Bearing, E40 Heat Roller Gear, Side Fuser Cover, Fuser Paper Guide

### CAUTION:

To prevent getting burned, do not install, remove, clean or make adjustments when the Fuser Unit is hot.



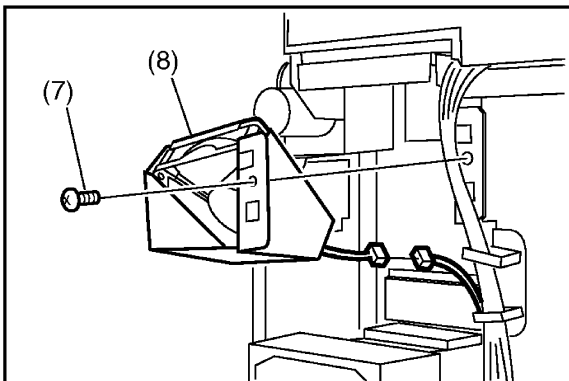
- (1) Remove the **Lower Rear Cover** (506), the **Left Rear Cover** (517), and the **Right Rear Cover** (507). (Refer to 2.2.2.)
- (2) Open the **Rear Cover** (417) Assembly. (Refer to 2.2.4.)
- (3) Disconnect the **Right Cover Connector**.
- (4) Remove the **Harnesses** from 4 clamps.



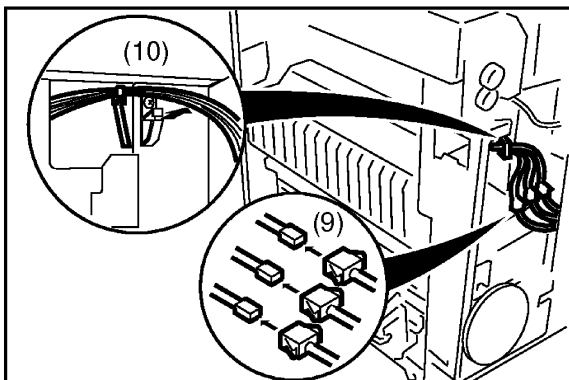
- (5) Open the **Right Cover** (1201) Assembly.
- (6) Unhook the **Rear Arm** (1219) and the **Front Arm** (1217) first as shown on the left and then remove the **Right Cover** (1201) Assembly in the direction of the arrow.

### Note:

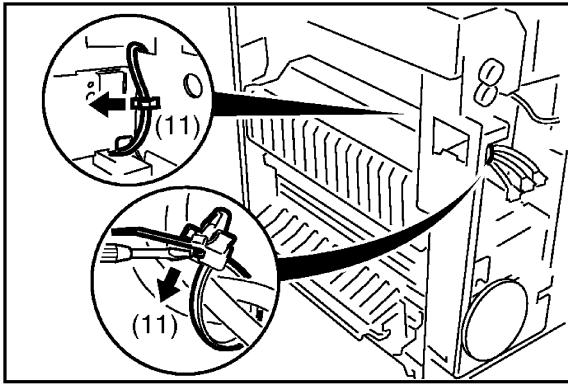
Please remove the Right Cover completely to prevent damage that could cause duplex skewing and jamming.



- (7) 1 **Screw** (19).
- (8) Disconnect the **Fan Connector** and remove the **Fan** (1126) Assembly.



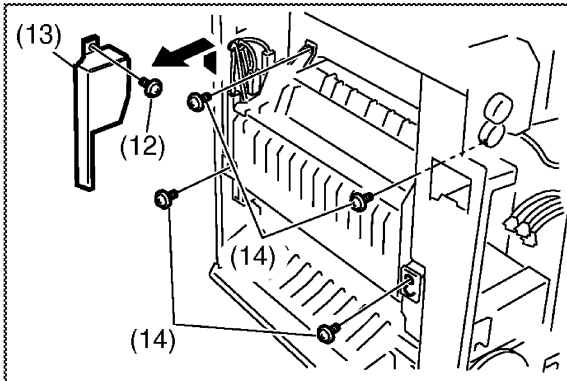
- (9) Disconnect 3 **Fuser Unit Connectors** as shown on the left.
- (10) Remove the **Harnesses** from the harness clamp.



- (11) Remove the **Harnesses** from the Clamp and the Band. The Band on the rear of the machine is easily removed as shown on the left. Do not cut it off.

**Note:**

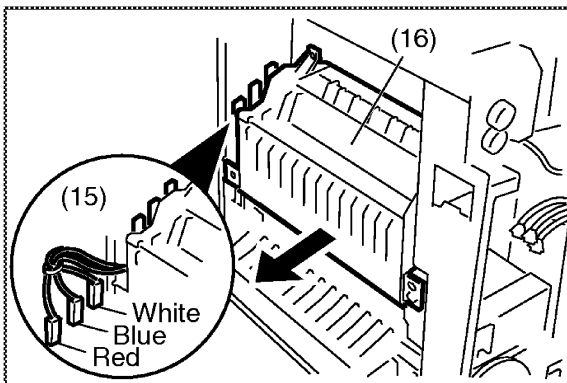
When re-installing, make sure to tighten the Band properly so that harnesses are not touching the gears of the Fuser Unit.



- (12) 1 **Screw** (19).

- (13) Remove the **Fuser Lamp Harness Cover** (1022).

- (14) 4 **Screws** (4N).



- (15) Disconnect 3 **Connectors**.

**Note:**

When re-installing, make sure to connect the White Connector to the rear, the Blue Connector to the middle, and the Red Connector to the front of the Fuser Unit as shown on the left.

If the Dual-Path Exit Guide Unit (DA-FK200) is installed, it must be removed first.

- (16) Remove the **Fuser Unit**.

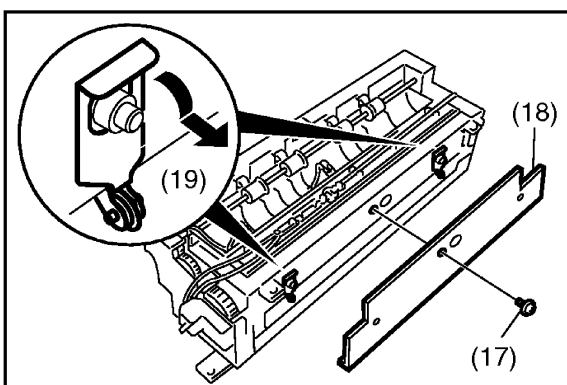
- (17) 1 **Screw** (36).

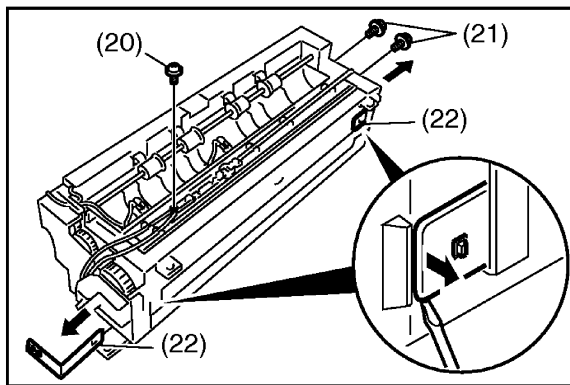
**Note:**

To prevent damaging the recessed screw seat, ensure to insert this shorter machine Screw (36) when re-attaching the Shield Plate onto the Fuser Unit.

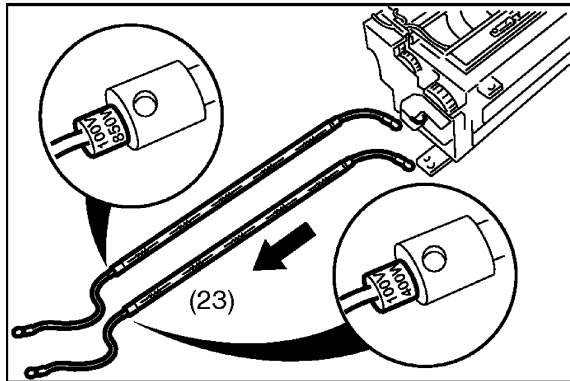
- (18) Remove the **Shield Plate** (1054).

- (19) Remove the 2 **Star Wheel Plates** (1057) Assembly.





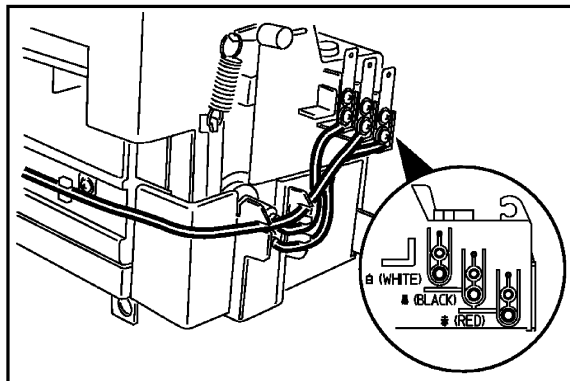
- (20) 1 **Screw** (4N).  
 (21) 2 **Screws** (16).  
 (22) Remove 2 **Lamp Brackets** (1018).



- (23) Remove 2 **Fuser Lamps**.

**Note:**

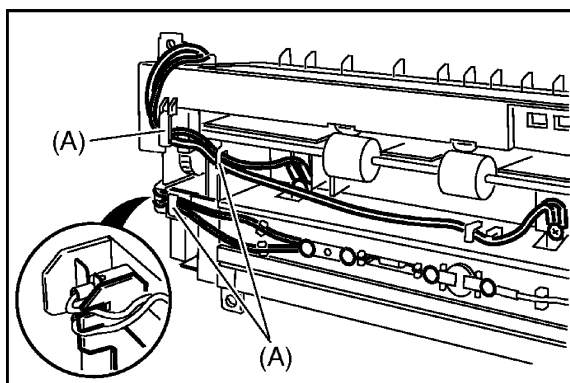
Make sure to check the wattage of each Fuser Lamp when replacing.



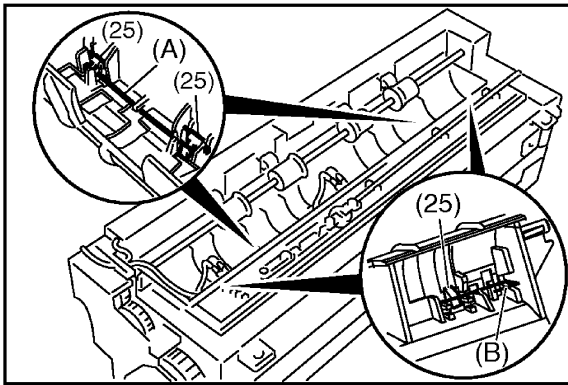
**<Precautions in handling the Fuser Lamps>**

**Note:**

1. When re-installing, route the Harnesses along the hooks as illustrated on the left.
2. Be sure to install the longer Harness to the Gear side and the shorter Harness to the other side.
3. Make sure that the 850W Fuser Lamp (White Harness) is plugged into the upper left slot and the 400W Fuser Lamp (Red Harness) is plugged into the lower right slot.
4. Route the Harnesses along the 3 hooks as illustrated by (A) on the left.
5. Do not touch the glass portion of the Fuser Lamp with bare hands. Grease from the fingerprints will shorten its life cycle, use a soft cloth, saturated with isopropyl alcohol to clean fingerprints.
6. Use care when handling the Fuser Lamps to avoid breakage.



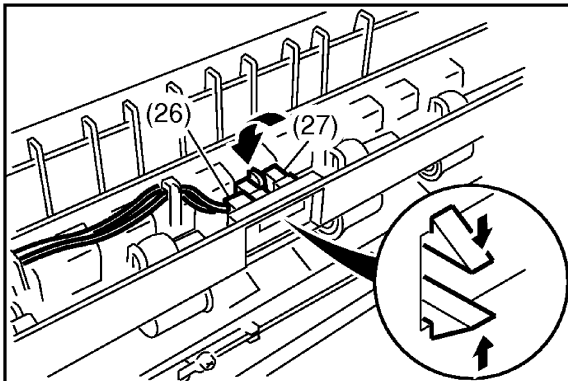




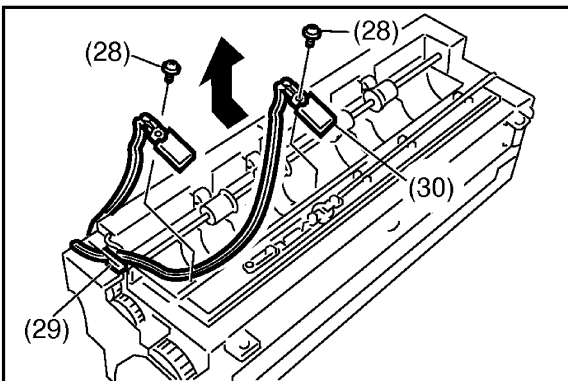
- (24) Remove the 2 **Separation Wire Springs** (A) (1048) and the 2 **Separation Springs** (B) (1053).
- (25) Remove the 6 **Separations** (1047).

**Cleaning Separations:**

Clean the Separations with a soft cloth, saturated with isopropyl alcohol.



- (26) Disconnect the **Sensor Connector**.
- (27) Move the **Actuator** in the direction of the arrow, release the **Latch Hooks** and remove the **Paper Exit Sensor** (1045).



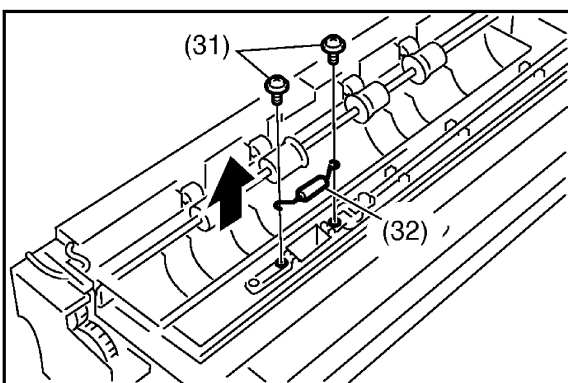
- (28) 2 **Screws** (1Q).
- (29) Release the **Harness** from the Hook.
- (30) Remove the **Thermistor Assembly 1** (1041) and the **Thermistor Assembly 2** (1042).

**Note:**

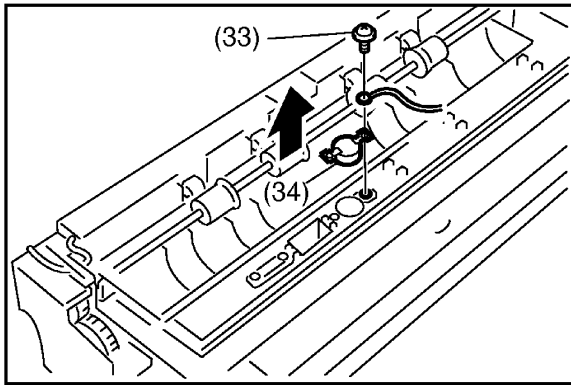
When re-installing, make sure that the Thermistor Assembly 1 (the longer Harness) is installed in the center and the Thermistor Assembly 2 (the shorter Harness) is installed to the left side as shown in the illustration.

**Cleaning Thermistors:**

Clean the surface of the Thermistors only with a soft dry cloth.

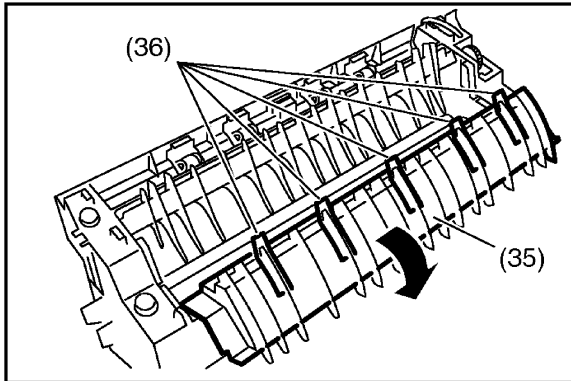


- (31) 2 **Screws** (23).
- (32) Remove the **Thermal Fuse** (1040).



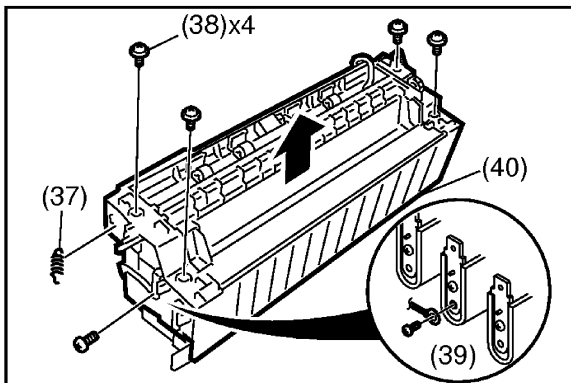
(33) 1 **Screw** (4N).

(34) Remove the **Thermostat** (1038).



(35) Open the **Fuser Jam Cover** (1011).

(36) Remove the 5 **Separation Sheets** (1060).

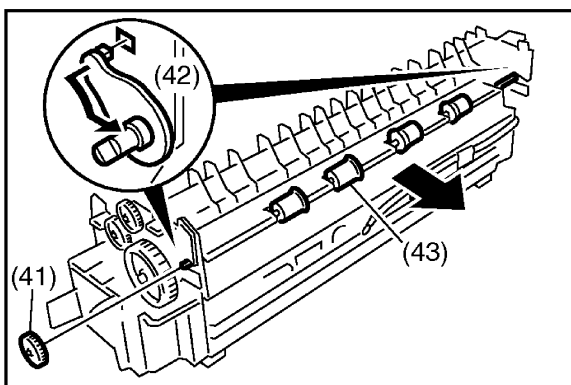


(37) Remove the **Guide A Spring** (1032).

(38) 4 **Screws** (4N).

(39) 1 **Screw** (16).

(40) Remove the **Fuser Upper Cover** (1002).



(41) Remove the **E18 Drive Gear** (1013).

(42) Remove the 2 **P3.5L5 Bushings** (1008, 1009).

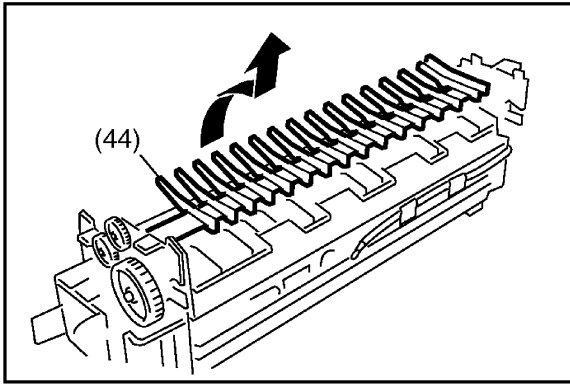
**Note:**

When re-installing, make sure to install the Green Colored Bushing (1009) to the Gear side and the Black Colored Bushing (1008) to the non-Gear side.

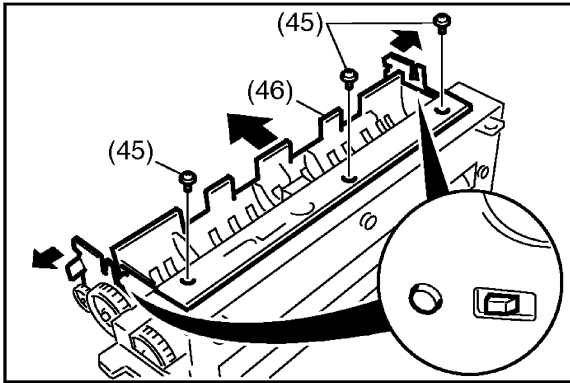
(43) Remove the **Exit Roller** (1028).

**Cleaning Exit Roller:**

Clean the surface of the Exit Roller with a soft cloth, saturated with isopropyl alcohol.

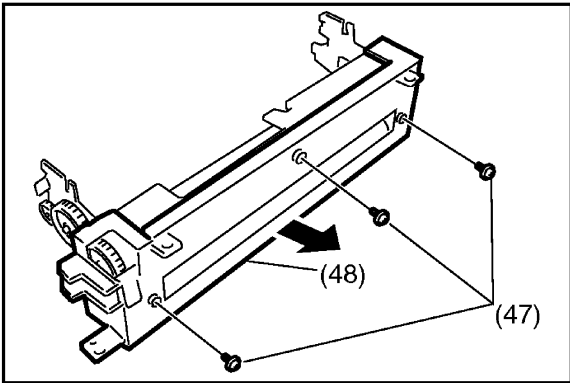


(44) Remove the **Turn Guide** (1007) in the direction of the arrow.



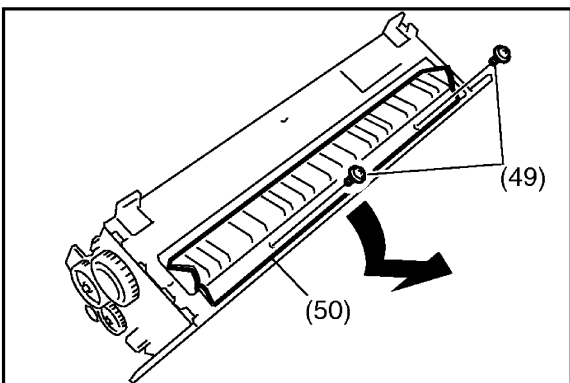
(45) 3 **Screws** (4N).

(46) Push slightly on both sides of the Fuser Frame (1017) outwards and remove the **Side Fuser Cover** (1004).



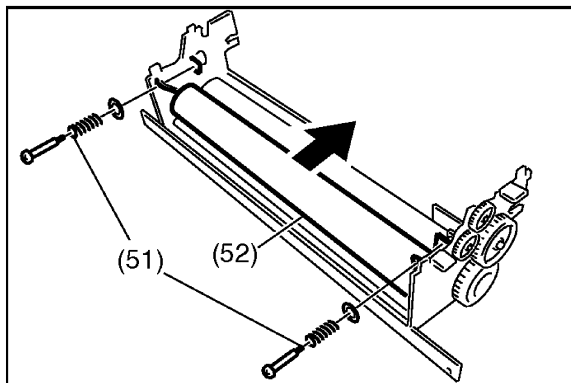
(47) 3 **Screws** (4N).

(48) Remove the **Lower Fuser Cover** (1003).

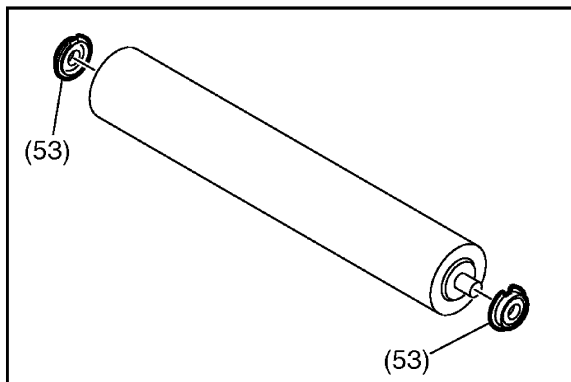


(49) 2 **Screws** (4N).

(50) Remove the **Fuser Paper Guide** (1019).



- (51) Remove the 2 **Screws** (1033), the 2 **Pressure Springs** (1029) and the 2 **Washers** (1052).  
 (52) Remove the **Pressure Roller** (1027).



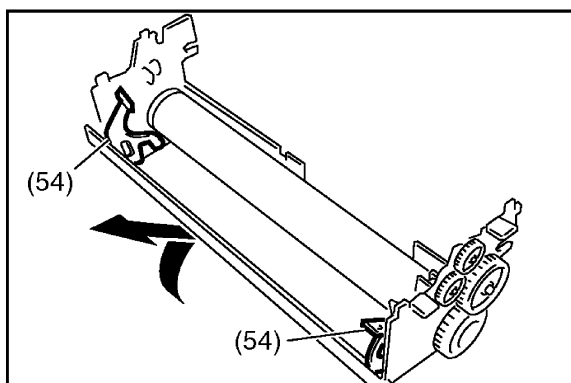
- (53) Remove 2 **Bearings** (1039).

**Note:**

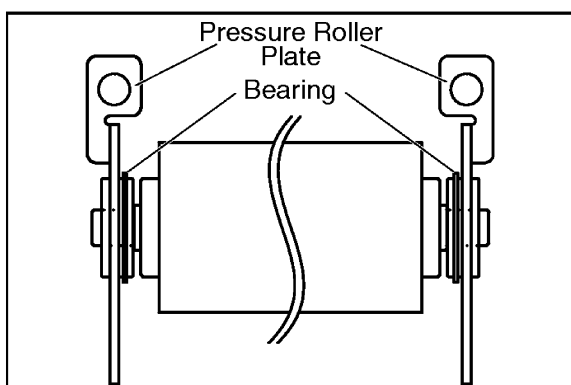
1. When re-installing, make sure to install with Bearing's Retainer Ring facing towards the Roller.
2. Do not scratch the surface of the Pressure Roller when removing or re-installing it.

**Cleaning Pressure Roller:**

Clean the surface of the Pressure Roller with a soft cloth, saturated with isopropyl alcohol.

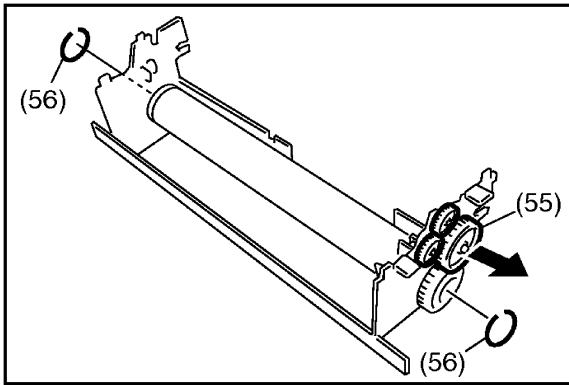


- (54) Remove the **Right Pressure Roller Plate** (1015) and the **Left Pressure Roller Plate** (1016).

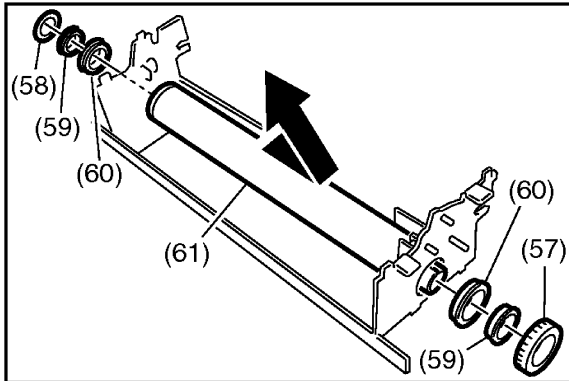


**<Precautions in handling Pressure Roller Plates>**

When re-installing the Pressure Roller Plates, make sure that the Bearings are installed properly first (Refer to the step (53) and then install the Pressure Roller Plates as shown in the illustration.



- (55) Remove the **E20 Gear** (937), **E25 Gear** (941), and **E41 Free Gear** (1012).
- (56) Remove the 2 **C-Type Rings** (1030).



- (57) Remove the **E40 Heat Roller Gear** (1014).
- (58) Remove the **Plate Spacer** (1023).
- (59) Remove the 2 **Insulation Bushings** (1006).
- (60) Remove the 2 **Bearings** (1046).
- (61) Remove the **Fuser Roller** (1026).

**Note:**

1. The Plate Spacer is installed only to the non-Gear side.
2. Do not scratch the surface of the Fuser Roller when removing or re-installing it.

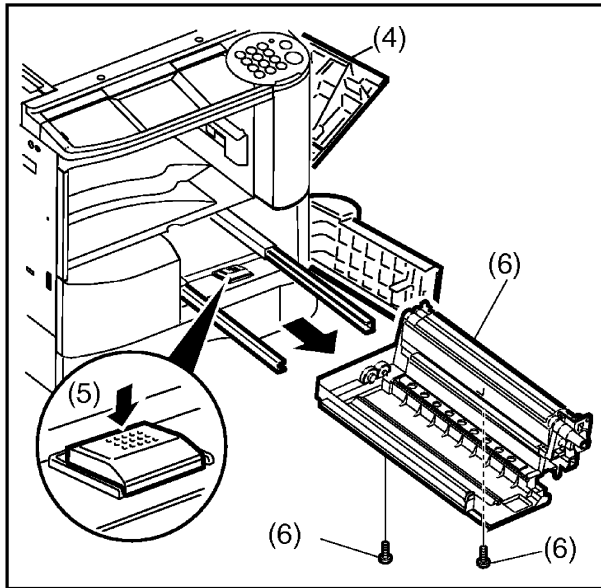
**Cleaning Insulation Bushings:**

Clean the Insulation Bushings with a soft cloth, saturated with isopropyl alcohol.

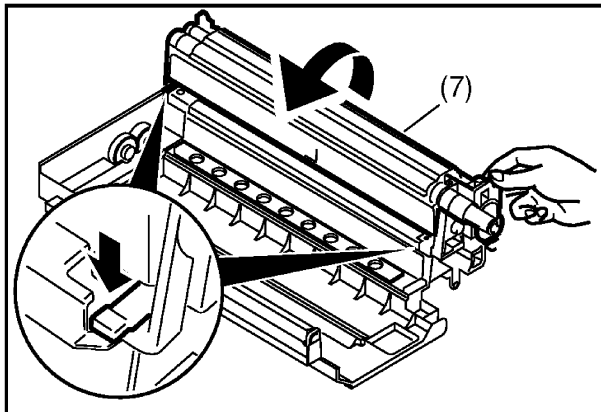
**Cleaning Fuser Roller:**

Clean the surface of the Fuser Roller with a soft cloth, saturated with isopropyl alcohol.

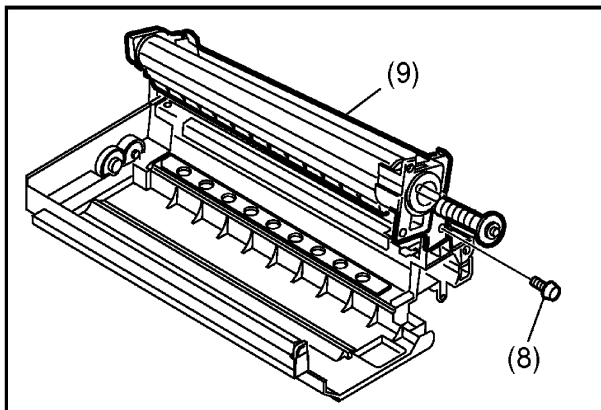
**2.2.9. OPC Drum, Cleaning Blade Assembly, Mag Roller, Dr Blade, Mag Roller Joint, Bias Charge Roller, Front Cleaning Felt, Rear Cleaning Felt, Cleaning Sponge, Scoop Sheet, Gap Roller, Development Felt**



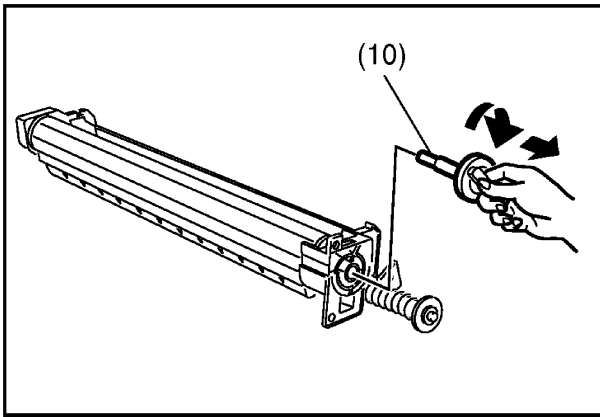
- (1) Turn the Power Switch to the OFF (O) position.
- (2) Open the **Front Cover** (528).
- (3) Remove the **Waste Toner Box** and the **Toner Cartridge**. (Refer to Users Guide)
- (4) Open the **Right Cover** (1201) Assembly.
- (5) Press down on the **Release Latch** (1109) and pull the **Process Assembly** out slowly until it stops.
- (6) 2 **Screws** and then remove the **Process Assembly** from the machine.



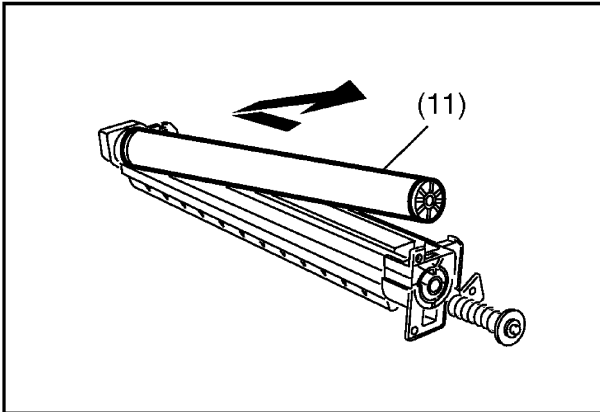
- (7) Release 2 **OPC Drum Latches** (713) and turn the OPC Assembly in the direction of the arrow.  
**Note:**  
To prevent Toner Spill, do not turn the Process Unit over.



- (8) 1 **Thumb Screw** (779).
- (9) Remove the **Waste Toner Chamber** (704) Assembly.



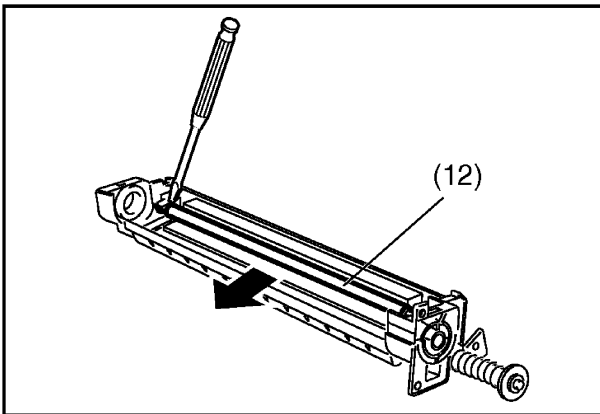
- (10) Remove the **OPC Drum Shaft Holder (707)** Assembly as shown on the right.



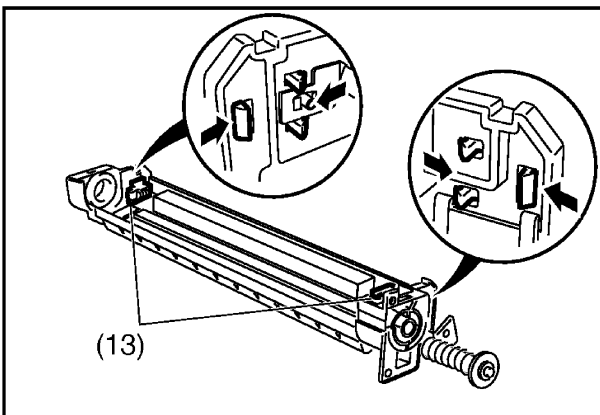
- (11) Lift the **OPC Drum (718)** as shown on the left, holding the right side where the OPC Drum Shaft Holder Assembly was installed.

**Note:**

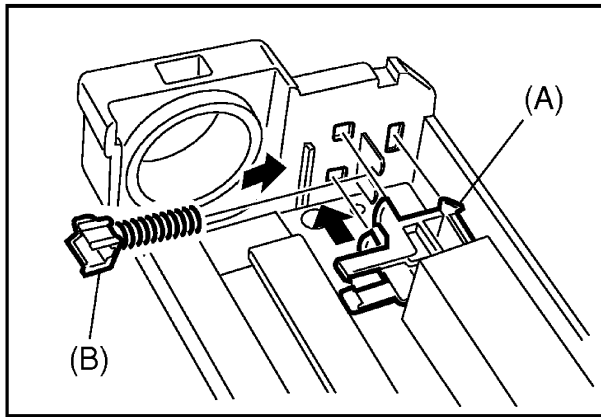
Do not touch the surface of the OPC Drum with bare hands when removing or re-installing it. Grease from fingerprints will affect copy quality. When installing a new OPC Drum, clean the Bias Charge Roller with a soft dry cloth.



- (12) Remove the **Bias Charge Roller (703)**.

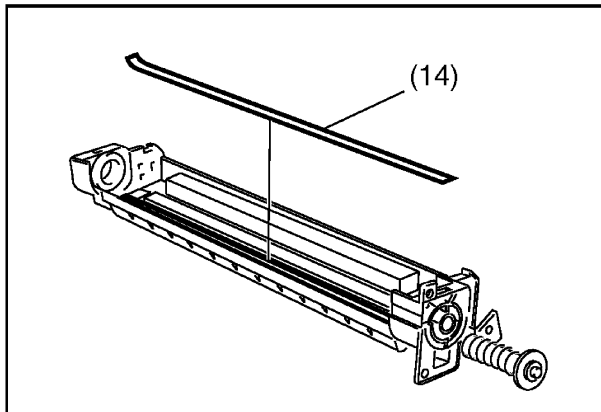


- (13) Remove the **Bias Charge Roller Holder (712)** Assembly.

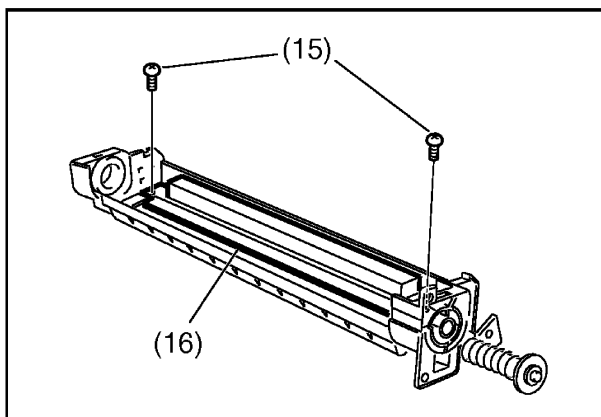


**Note:**

When re-installing the Bias Charge Roller Holder Assembly, install the **Bias Charge Roller Holder** (712) first as shown in (A) on the left and then the **Bias Charge Roller Bushing** (701) with the **Bushing Coil Spring** (702) as shown in (B).

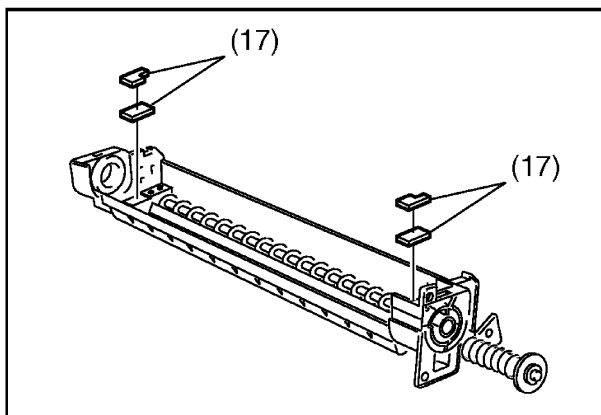


(14) Remove the **Scoop Sheet** (725).



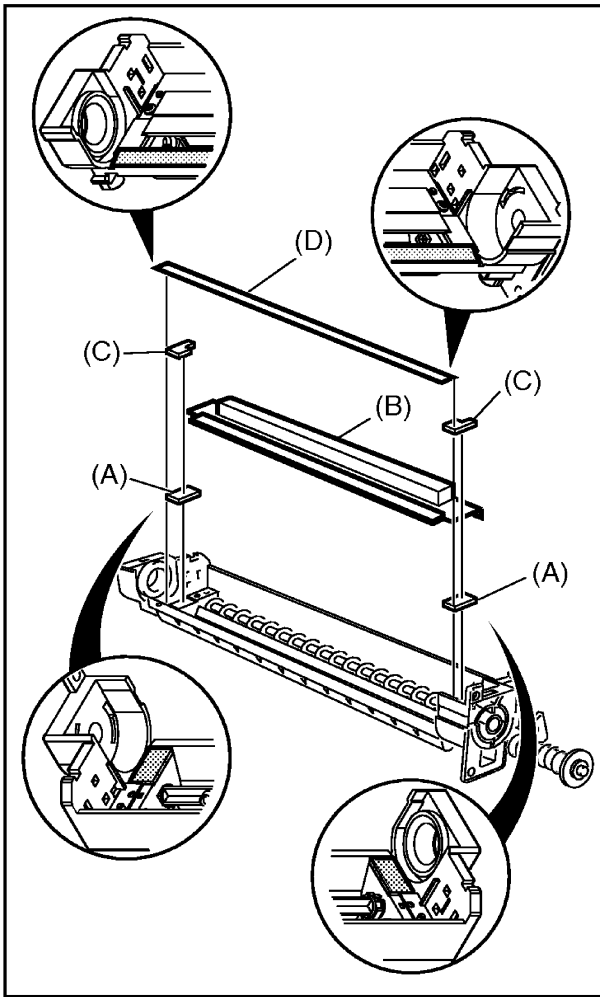
(15) 2 **Black Screws** (B4).

(16) Remove the **Cleaning Blade Assembly** (717).



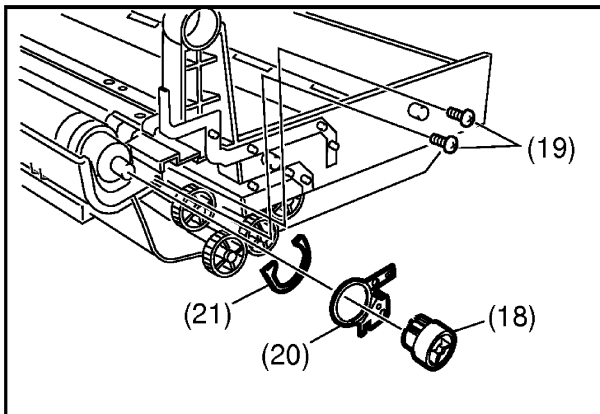
(17) Remove **Front Cleaning Felt** (722), **Rear Cleaning Felt** (723) and 2 **Cleaning Sponges** (724).



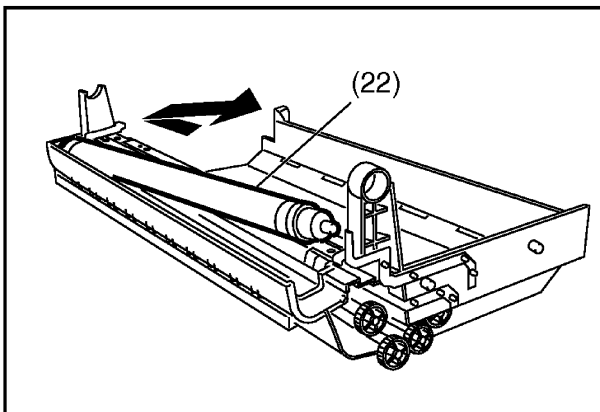


**Note:**

1. When re-installing, install 2 Cleaning Sponges (724) first as shown in (A) on the left, then the Cleaning Blade (717) next as shown in (B), then the Front Cleaning Felt (722) and Rear Cleaning Felt (723) as shown in (C) and lastly paste the Scoop Sheet (725) as shown in (D).
2. When re-installing the Cleaning Felts, make sure that there is no space between the rubber part of the Cleaning Blade and the Cleaning Felts as shown on the left.
3. When re-installing the Cleaning Sponges and the Scoop Sheet, paste them flat aligning with the edge of the OPC Drum Shaft Holder as shown on the left.



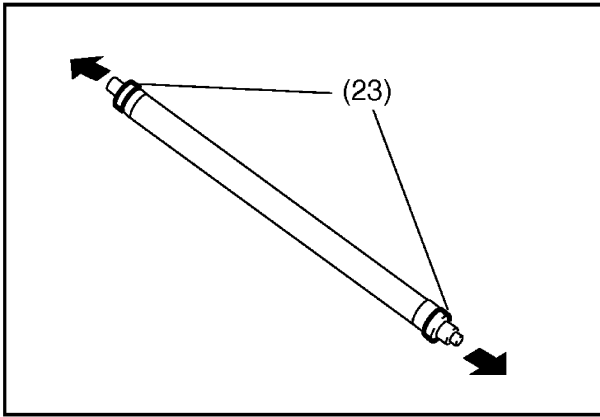
- (18) Remove the **Mag Roller Joint** (753).
- (19) 2 **Black Screws** (B4).
- (20) Remove the **D2 Charge Plate** (759).
- (21) Remove the **Mag Roller Retainer** (756) by gently pushing it downwards.



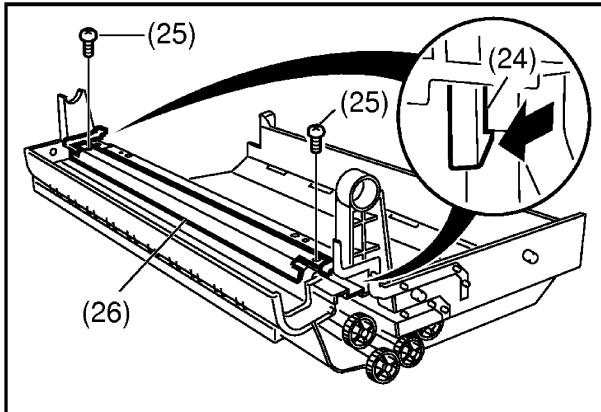
- (22) Remove the **Mag Roller** (769).

**Note:**

- a. Do not touch the surface of the Mag Roller.
- b. When removing or re-installing, place the Mag Roller on a cloth or paper and handle it with care.



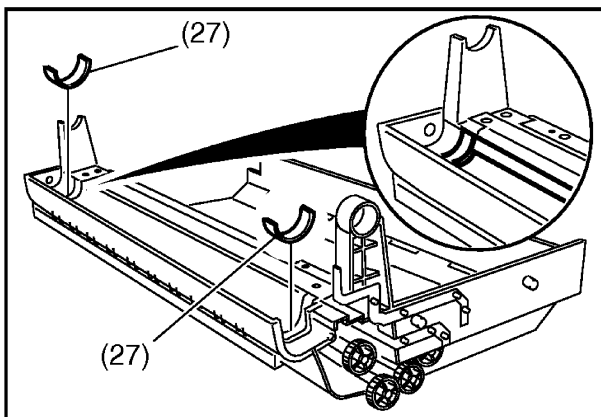
(23) Remove the **Gap Rollers** (746).



(24) Remove the **OPC Drum Latches** (713).

(25) 2 **Black Screws** (B4).

(26) Remove the **Dr Blade** (762).




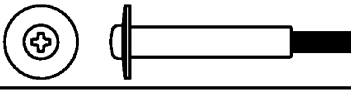









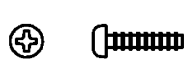











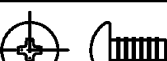
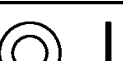
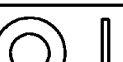
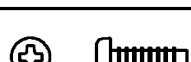




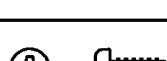
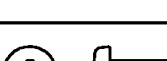
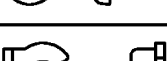
(27) Remove 2 **Development Felts** (774).





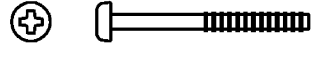
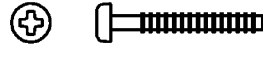
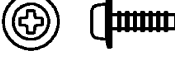
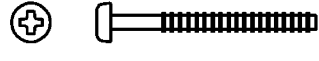
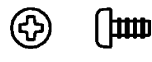

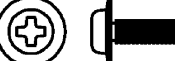
**Note:**

When re-installing, make sure that there is no space between the rubber part of the Dr Blade and the Development Felt as illustrated on the left.

### 2.3. Screw Identification Template

Ref No.	Part No.	Figure	Remark
16	XYN3+8J		Screw
18	XYN3+L6		Screw
19	XTB3+8J		Screw
1033	DZPA000025		Shoulder Screw
1052	XWG55E12FY		Washer
1417	DZPK000017		Washer
1654	DZPA000064		Thumb Screw
1Q	XYN3+F10		Screw
1Y	XTB3+10J		Screw
23	XYN3+F8		Screw
24	XYN4+F8		Screw
271	FFPFJ0041		Snap Ring
2B	XTB3+14J		Screw
2K	XTB26+12J		Screw
35	XYN4+F6		Screw
36	XYN3+F6		Screw
49	XXE3A4FY		Allen Screw

Ref No.	Part No.	Figure	Remark
4N	XSN3+W8PC		Screw
556	XSN3+W8PC		Shoulder Screw
5M	XYN3+F4		Screw
5Y	XUC4		E-Ring
5Z	XUC6		E-Ring
604	DZPD000005		Screw
623	DZPD000006		Screw
625	DZPA000061		Washer
652	DZPK000001		Washer
6A	XTB3+12J		Screw
779	DZPA000062		Thumb Screw
7B	XTB26+6J		Screw
942	DZTT000039		E-Ring
B1	DZPB000007		Silver Screw
B4	XTB3+8JK		Screw
B5	XSB4+10BN		Screw
B9	DZJM000171		E-Ring

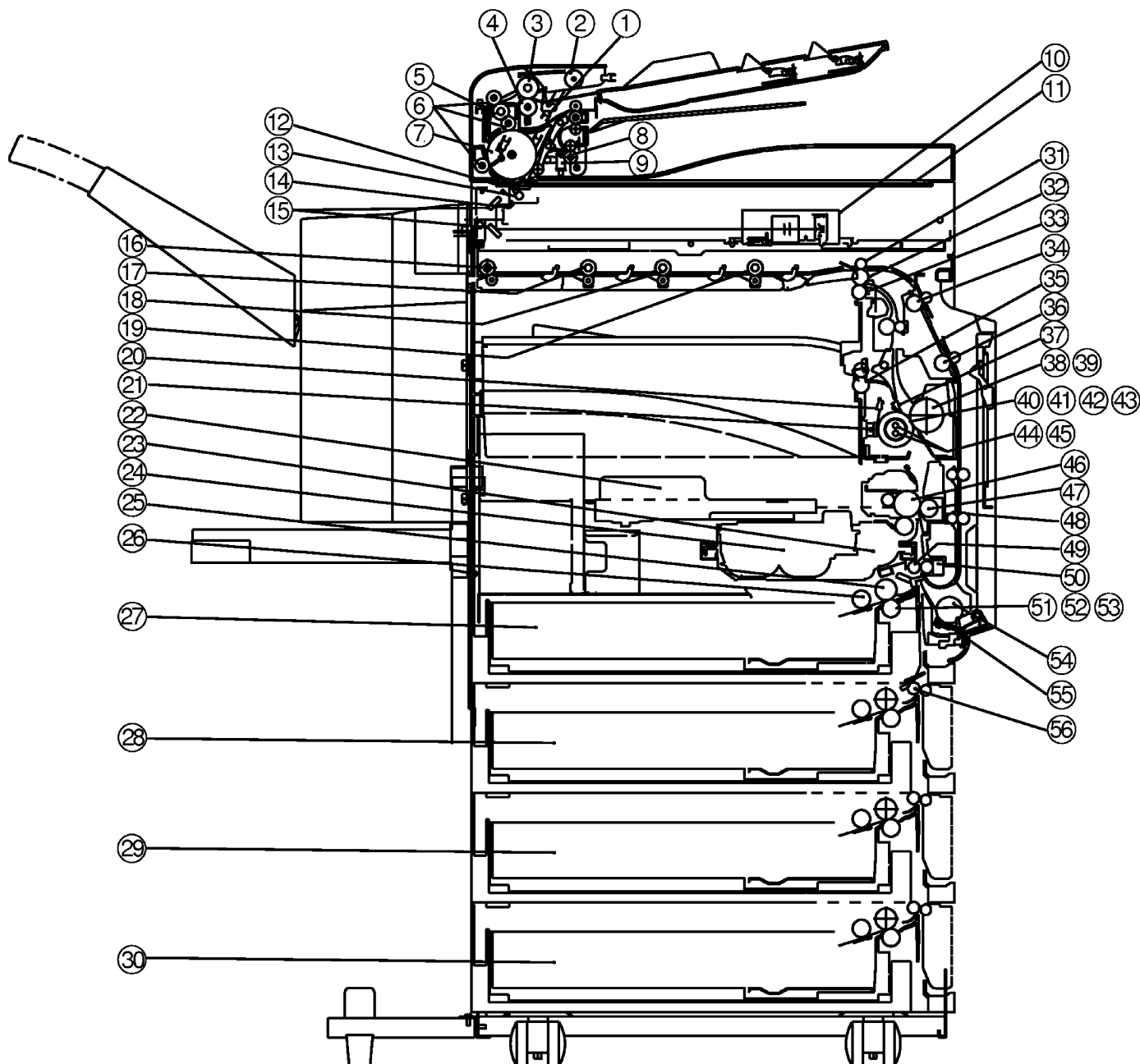
Ref No.	Part No.	Figure	Remark
C8	XTW3+8SFC		Screw
D9	DZPF000001		Nut
D24	DZPA000013		Red Screw
D25	DZPA000014		Blue Screw
E5	XTB3+32J		Screw
E6	XTB3+24J		Screw
E8	XTW3+10S		Screw
F4	DZPA000063		Screw
F5	XSN3+5		Screw
F6	DZPK000021		Washer
F7	XSN+W10FN		Silver Screw

### 3 Maintenance, Adjustments and Check Points

#### 3.1. Required Tools

No.	Tool	No.	Tool
1	Soft Cloth	7	Pliers
2	Isopropyl Alcohol	8	Cotton Swab
3	Phillips Screwdriver (#2)	9	Brush
4	Stubby Phillips Screwdriver (#2)	10	KS-660 - Conductive Grease (Available from Shin-Etsu Silicones of America, Inc. URL: <a href="http://www.shinetsusilicones.com">http://www.shinetsusilicones.com</a> )
5	Slotted Blade Screwdriver (3/32 in)	11	Molykote EM-50L Grease (Available from Dow Corning, URL: <a href="http://www.dowcorning.com">http://www.dowcorning.com</a> )
6	Tweezer		

#### 3.2. Periodic Maintenance Points



### 3.2.1. Periodic Maintenance Points Part Description

No.	Part Name	No.	Part Name
1	Actuator 1 (1836)	29	3rd Paper Tray
2	Roller, Pre-Feed (1731)	30	4th Paper Tray
3	Roller, ADF (1728)	31	Roller, Pinch (1518)
4	Roller, Separation (1740)	32	Roller, Feed (1510)
5	Roller, Drive (1872)	33	Roller, Idle (1511)
6	Roller, Pinch (1838)	34	Roller, Drive 2 (1410)
7	Roller, Feed 2 (1753)	35	Roller, Feed (1510)
8	Roller, Exit (1751)	36	Roller, Drive 2 (1410)
9	Stamp Unit	37	Separation (1047)
10	CCD Assembly (207)	38	Roller, Pressure (1027)
11	Glass Assembly (557)	39	Bearing (1039)
12	Glass S (559)	40	Roller, Fuser (1026)
13	Lamp, Xenon (204)	41	Bushing, Insulation (1006)
14	Mirror 1 (264)	42	Bearing (1046)
15	Mirror 2 (265)	43	Gear, E40 Heat Roller (1014)
16	Roller, Drive (1314)	44	Lamp, Fuser (850W) (1043)
17	Roller, Drive (1314)	45	Lamp, Fuser (400W) (1044)
18	Roller, Drive (1314)	46	Drum, OPC (718)
19	Roller, Drive (1314)	47	Roller, Bias Transfer (1221)
20	Thermistor Assembly1, 2 (1041, 1042)	48	Roller, Drive (1409)
21	Thermostat (1038)	49	Roller, Timing pinch (1222)
22	LSU (1124)	50	Cleaner, Roller (1229)
23	Process Assembly (785)	51	Roller, C25 Gear (1145)
24	Toner Cartridge	52	Clutch, Reverse (1132)
25	Roller, Paper Feed (1144)	53	Spring, A (1146)
26	Roller, C25 Gear (1145)	54	Roller, Feed (1244)
27	1st Paper Tray	55	Pad, Separator Holder (1242)
28	2nd Paper Tray	56	Roller, Intermediate (3106)

### 3.2.2. Periodic Maintenance Method

No.	Part Description	Important Action	Comments
1	Memory Data	Check	1. Print the RAM DATA for reference and pre-caution. 2. After completing the task(s), print and compare the RAM DATA with the previously printed one.
2	Auto Document Feeder (ADF)	Check & Clean	1. Clean the Rollers with Isopropyl Alcohol when required.
3	Scanner Unit	Check & Clean	1. Clean the Scanning Glass or White Seal Guide with Isopropyl Alcohol when required.
4	Transmitter Unit	Check & Clean	1. Remove any foreign obstacles. 2. Clean the Rollers with Isopropyl Alcohol when required.
5	Mirrors	Check & Clean	1. Do not touch the surface of the Mirrors with your hands. Clean any dirt or fingerprints with a soft cloth, soaked in Isopropyl Alcohol.
6	Inspection Items	Check	1. Check the Harnesses. 2. Check the Connectors. 3. Check the Screws. If required, replace consumable parts.
7	Gears, Rollers Shafts	Check & Grease	1. Check and grease the required Gears and Shafts.
8	Timing Belts	Check & Clean	1. Check for belt looseness or abrasion. 2. Adjust the Idle Pulley.



### 3.3. Periodic Maintenance Check List

For a detailed Periodic Maintenance Check List, refer to **Appendix I** at the end of this Service Manual.

Mechanical Parts	Ref. No.	Cleaning		Replacement/Adjustment		Ref. Counter
		Cycle	Method	Cycle	Procedure	
Xenon Lamp	204	-	-	240,000 sheets	Refer to ch 2.2.6. of the Service Manual	F7-02 Scanner PM Count
Slider	211	-	-	600,000 sheets		
FPC Cable	260	-	-	240,000 sheets		
Bias Charge Roller	703	30,000 sheets (DP-2000/2500) 45,000 sheets (DP-3000)	Dry soft cloth	120,000 sheets	Refer to ch 2.2.9. of the Service Manual	F7-02 Process Unit Count
Cleaning Blade	717	-	-	120,000 sheets		F7-02 OPC Drum Count
OPC Drum	718	-	-	30,000 sheets (DP-2000/2500) 45,000 sheets (DP-3000)		
Front Cleaning Felt	722	-	-	120,000 sheets		F7-02 Process Unit Count
Rear Cleaning Felt	723	-	-	120,000 sheets		
Cleaning Sponge	724	-	-	120,000 sheets		
Scoop Sheet	725	-	-	120,000 sheets		
Gap Roller	746	-	-	120,000 sheets		
Mag Roller Joint	753	-	-	120,000 sheets		
Dr Blade	762	-	-	120,000 sheets		
Roller, Mag	769	-	-	120,000 sheets		
Development Felt	774	-	-	120,000 sheets		
Side Fuser Cover	1004	60,000 sheets	Alcohol	-	Refer to ch 2.2.8. of the Service Manual	F7-02 Total Count
Insulation Bushing	1006	60,000 sheets	Alcohol	120,000 sheets		
E40 Heat Roller Gear	1014	-	-	240,000 sheets		
Fuser Paper Guide	1019	60,000 sheets	Alcohol	-		
Fuser Roller	1026	60,000 sheets	Alcohol	120,000 sheets		
Pressure Roller	1027	60,000 sheets	Alcohol	240,000 sheets		
Exit Roller	1028	60,000 sheets	Alcohol	240,000 sheets		
Bearing	1039	-	-	240,000 sheets		
Thermistor Assembly 1	1041	60,000 sheets	Dry soft cloth	240,000 sheets		
Thermistor Assembly 2	1042	60,000 sheets	Dry soft cloth	240,000 sheets		
Fuser Lamp (850W)	1043	-	-	360,000 sheets		
Fuser Lamp (400W)	1044	-	-	360,000 sheets		
Bearing	1046	-	-	240,000 sheets		
Separation	1047	60,000 sheets	Alcohol	120,000 sheets		
Separation Sheet	1060	30,000 sheets	Alcohol	120,000 sheets		
Registration Roller	1121	60,000 sheets	Alcohol	120,000 sheets	Refer to ch 2.2.7. of the Service Manual	
LSU	1124	60,000 sheets	Alcohol	-		
Fan	1126	-	-	240,000 sheets	Refer to ch 2.2.4. and ch 2.2.7. of the Service Manual	

Mechanical Parts	Ref. No.	Cleaning		Replacement/Adjustment		Ref. Counter
		Cycle	Method	Cycle	Procedure	
Reverse Clutch	1132	-	-	120,000 sheets	Refer to ch 2.2.7. of the Service Manual	F7-03 1st - 4th Paper Tray Count
Paper Feed Roller	1144	60,000 sheets	Alcohol	120,000 sheets		
C25 Gear Roller	1145	60,000 sheets	Alcohol	120,000 sheets		
A Spring	1146	-	-	120,000 sheets		
Bias Transfer Roller (BTR)	1221	30,000 sheets	Dry soft cloth	120,000 sheets		F7-02 Total Count
Roller Cleaner	1229	60,000 sheets	Dry soft cloth	120,000 sheets		
Separator Holder Pad	1242	60,000 sheets	Alcohol	120,000 sheets		F7-03 Sheet Bypass Count
Feed Roller	1244	60,000 sheets	Alcohol	120,000 sheets		
Drive Roller	1314	60,000 sheets	Alcohol	240,000 sheets	-	F7-04 ADF / Paper Transport Count
Drive Roller	1409	60,000 sheets	Alcohol	240,000 sheets	-	F7-04 ADF / ADU Count
Drive 2 Roller	1410	60,000 sheets	Alcohol	240,000 sheets		
Feed Roller	1510	60,000 sheets	Alcohol	240,000 sheets	-	F7-04 ADF /Dual-Path Count
Idle Roller	1511	60,000 sheets	Alcohol	240,000 sheets		
ADF Roller	1728	60,000 sheets	Alcohol	120,000 sheets	Refer to ch 2.2.1. of the Service Manual	F7-04 ADF / i-ADF Count
Pre-Feed Roller	1731	60,000 sheets	Alcohol	120,000 sheets		
Separation Roller	1740	60,000 sheets	Alcohol	120,000 sheets		
Torque Limiter Bushing	1741	60,000 sheets	Alcohol	120,000 sheets		
Torque Limiter Spring	1742	60,000 sheets	Alcohol	120,000 sheets		

#### Note

The Maintenance Cycle is based on the Counter Information for each individual module.

To verify the counter information, print the Total Counter List using the Service Mode: F9 - 03 (Print Device Info.) - 02 (Counter Information)

### **3.4. Updating the Firmware**

Unlike other machines with removable EPROM (Erasable Programmable ROM), this machine is equipped with an F-ROM (Flash ROM). F-ROM offers the flexibility of quick and easy firmware updates, creation of a master firmware card, backup and restore of firmware and machine parameters.

The following is the basic procedure to update the firmware of the machine. The details are described in the Firmware Update Kit User's Guide. (Order No.: DZTP000019)

#### **3.4.1. Creating a Master Firmware Card**

##### **A. Utilizing the Firmware Update Kit.**

1. Install the Firmware Update Kit.
2. Install a Flash Memory Card (4 MB or higher) into the machine.
3. Follow the instructions included in the Firmware Update Kit User's Guide.

##### **B. Copying the Firmware from an Existing Machine using a 4MB Flash Memory Card**

1. Turn the Power Switch to the OFF (O) position.
2. Install a Flash Memory Card (4 MB or higher) into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
5. Perform the Copy Service Mode F9-08-00 (Firmware Backup Host Program (4MB)).
6. The firmware is copied into the Flash Memory Card.
7. After the backup is completed, press "RESET" first and then press FUNCTION + CLEAR keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the Master Firmware Card that you just created from the machine.
10. Turn the Power Switch to the ON (I) position.
11. Use this Master Firmware Card to update the firmware on other machines.

##### **C. Copying the Firmware from an Existing Machine using two 2MB Flash Memory Cards**

1. Turn the Power Switch to the OFF (O) position.
2. Install a Flash Memory Card (2 MB) into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
5. Perform the Copy Service Mode F9-08-01 (Firmware Backup Host Part A (2MB)).
6. The firmware is copied into the Flash Memory Card.
7. After the backup is completed, press "RESET" first and then press FUNCTION + CLEAR keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the Master Firmware Card that you just created from the machine and install a second Flash Memory Card (2 MB) into the machine.
10. Turn the Power Switch to the ON (I) position.
11. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
12. Perform the Copy Service Mode F9-08-02 (Firmware Backup Host Part B (2MB)).
13. The firmware is copied into the Flash Memory Card.
14. After the backup is completed, press "RESET" first and then press FUNCTION + CLEAR keys simultaneously to return to standby.
15. Turn the Power Switch to the OFF (O) position.
16. Remove the Master Firmware Card that you just created from the machine.
17. Turn the Power Switch to the ON (I) position.
18. Use these 2 Master Firmware Cards to update the firmware on other machines.

### **3.4.2. Updating the Firmware (Host) using the Master Firmware Card**

#### **A. When a 4 MB Flash Memory Card was used**

1. Before starting, print the F5 & F6 Parameters (Copier) and Fax/Function Parameters (Fax) Lists.
2. Turn the Power Switch to the OFF (O) position.
3. Install the appropriate Master Firmware Card into the machine.
4. Turn the Power Switch to the ON (I) position.
5. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
6. Perform the Copy Service Mode F9-07-00 (Firmware Update Host Program (4MB)).
7. The firmware is copied into the machine.
8. After the update is completed, the machine reboots itself and returns to standby.
9. Perform the Copy Service Mode F9-06-00 (Parameter Initialization).
10. Turn the Power Switch to the OFF (O) position.
11. Remove the Master Firmware Card from the machine.
12. Turn the Power Switch to the ON (I) position.
13. Reprogram the F5 & F6 Parameters (Copier) and Fax/Function Parameters (Fax) according to the lists printed in Step 1 above if the settings are other than factory default.

#### **B. When two 2 MB Flash Memory Cards were used**

1. Before starting, print the F5 & F6 Parameters (Copier) and Fax/Function Parameters (Fax) Lists.
2. Turn the Power Switch to the OFF (O) position.
3. Install the Master Firmware Card (Part A) into the machine.
4. Turn the Power Switch to the ON (I) position.
5. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
6. Perform the Copy Service Mode F9-07-01 (Firmware Update Host Part A (2MB)).
7. The firmware is copied into the machine.
8. After the update is completed, the machine reboots itself and returns to standby.
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card (Part A) and install the Master Firmware Card (Part B) into the machine.
11. Turn the Power Switch to the ON (I) position.
12. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
13. Perform the Copy Service Mode F9-07-02 (Firmware Update Host Part B (2MB)).
14. The firmware is copied into the machine.
15. After the update is completed, press "RESET" first and then press FUNCTION + CLEAR keys simultaneously to return to standby.
16. Turn the Power Switch to the OFF (O) position.
17. Remove the Master Firmware Card from the machine.
18. Turn the Power Switch to the ON (I) position.
19. Perform the Copy Service Mode F9-06-00 (Parameter Initialization).
20. Reprogram the F5 & F6 Parameters (Copier) and Fax/Function Parameters (Fax) according to the lists printed in Step 1 above if the settings are other than factory default.

**C. Updating the Firmware (Control Panel) using the Master Firmware Card (2 MB or higher)**

1. Turn the Power Switch to the OFF (O) position.
2. Remove the Control Panel Assembly (See Sect. 2-2-2 and 2-2-3).
3. Install the Master Firmware (Control Panel) Card into the PNL1 PCB (19120).
4. While holding down the Energy Saver key, turn the Power Switch to the ON (I) position. Keep holding the Energy Saver key for approximately 10 sec.
5. Upon releasing the key, the firmware is copied into the machine.
6. After the update is completed, the machine reboots itself and returns to standby.
7. Turn the Power Switch to the OFF (O) position.
8. Remove the Master Firmware Card from the PNL1 PCB (19120).
9. Re-install the Control Panel Assembly.
10. Turn the Power Switch to the ON (I) position.
11. Perform the Copy Service Mode F9-02-01 (Control Panel) and verify the Control Panel firmware version.

**D. When the G3B PCB (2nd G3 Fax Communication Option) is installed**

Follow the instructions included in the Firmware Update Kit (E-406053) User's Guide.

**E. When EP PC Board (PDL Option) is installed**

Install a Flash Memory Card (4 MB or higher) into the machine.

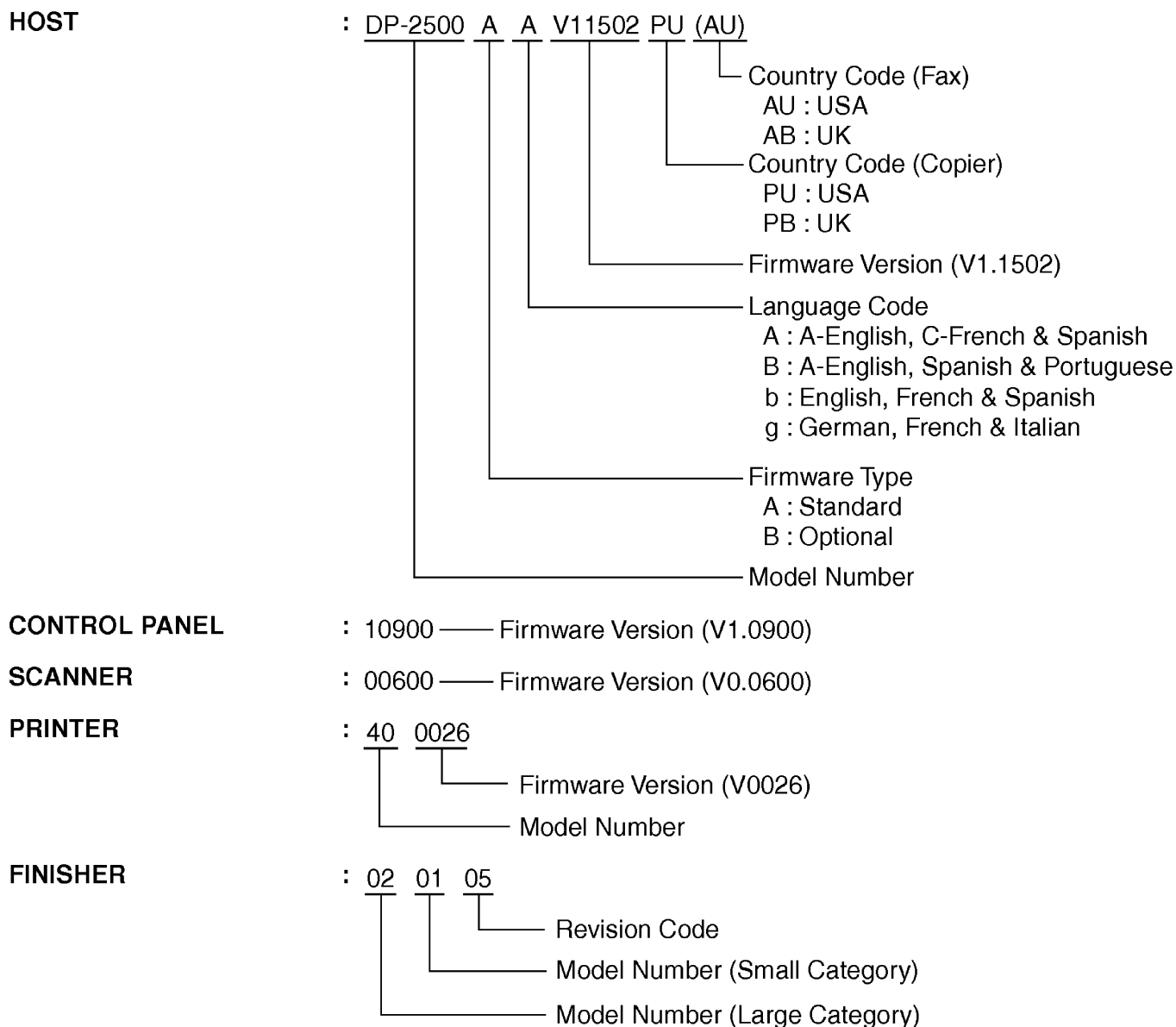
**F. When the LAN PC Board (Option) is installed**

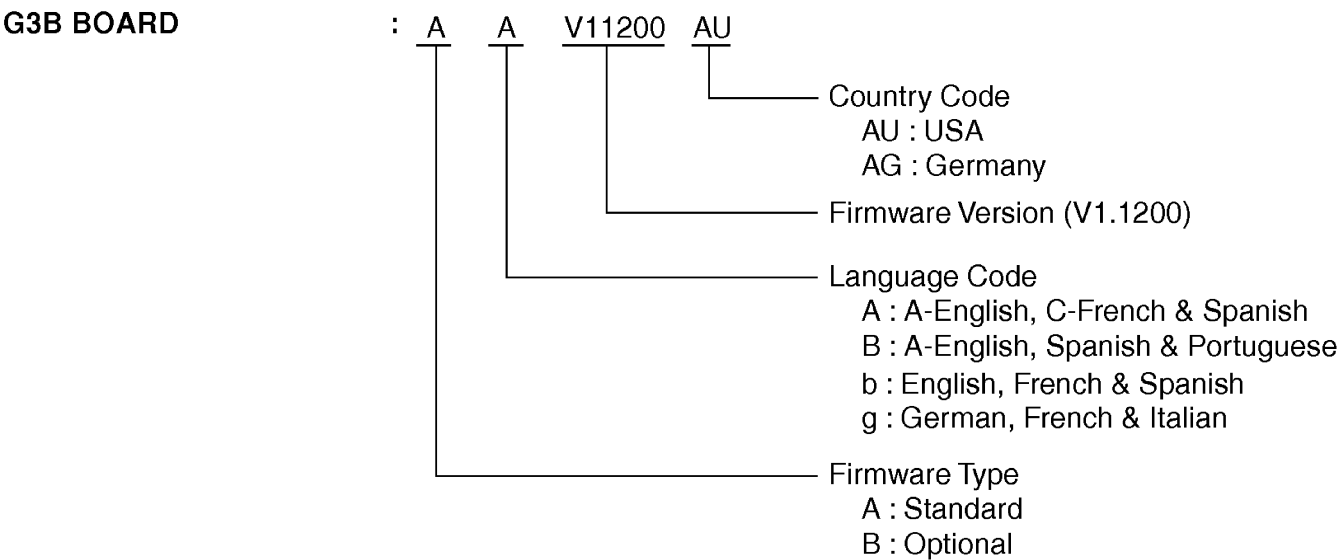
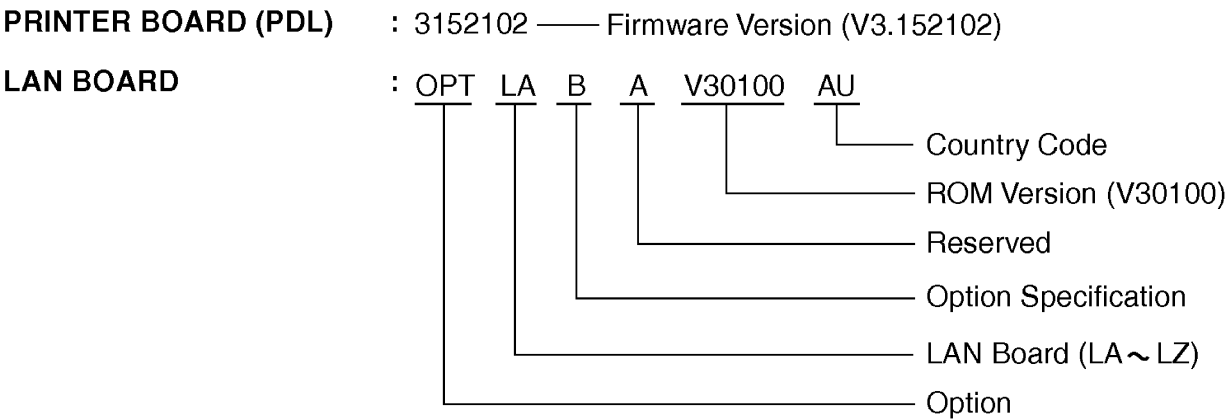
- a. Follow the instructions included in the Firmware Update Kit User's Guide.

### 3.4.3. Erasing the Master Firmware Card

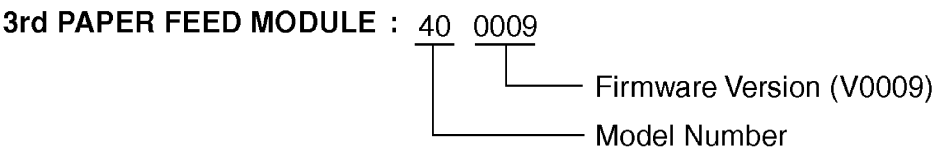
1. Turn the Power Switch to the OFF (O) position.
2. Install the Master Firmware Card into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press FUNCTION + ORIGINAL SIZE (LEDGER/A3) keys + Key 3 on the keypad simultaneously.
5. Perform the Service Mode F9-09 (PC → Flash Card).
6. After the Flash Memory Card is erased, machine prompts "PROGRAM CARD?". Press "NO".
7. Press "RESET" first and then press FUNCTION + CLEAR keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the blank Flash Memory Card from the machine.
10. Insert another Master Firmware Card into the machine (if two 2 MB cards were used).
11. Turn the Power Switch to the ON (I) position.
12. Repeat from Step 4 above if you are erasing another Master Firmware Card.

### 3.4.4. Firmware Version





**MODEM** : 0605 — Firmware Version (V06.05)



### 3.5. Glossary of Electrical Abbreviations

Glossary of Electrical Abbreviations	
Signal Name	Description
+12V	+12 VDC Power Supply
+24V	+24 VDC Power Supply
+24VD	+24 VDC Power Supply
+24VD1	+24 VDC Power Supply
+24VD2	+24 VDC Power Supply
+24VDR	Fan Control Signal 24V/16V
+24VF	+24 VDC Power Supply
+24VF4	+24 VDC Power Supply
+24VM	+24 VDC Power Supply
+24VOPF	+24 VDC Power Supply
+3.3V	+3.3 VDC Power Supply
+5PVP	Backup +5 VDC Power Supply
+5V	+5 VDC Power Supply
+5VI	+5 VDC Power Supply
+5VP	+5 VDC Power Supply
+VDO	Video Signal (LVPS + Output)
-12V	-12 VDC Power Supply
5HPCLK	LSU Clock
5SENTIM	Clock Signal
A[0]	Address Signal
A[1]	Address Signal
A[10]	Address Signal
A[11]	Address Signal
A[12]	Address Signal
A[13]	Address Signal
A[14]	Address Signal
A[15]	Address Signal
A[16]	Address Signal
A[17]	Address Signal
A[18]	Address Signal
A[19]	Address Signal
A[2]	Address Signal
A[20]	Address Signal
A[21]	Address Signal
A[3]	Address Signal
A[4]	Address Signal
A[5]	Address Signal
A[6]	Address Signal
A[7]	Address Signal
A[8]	Address Signal
A[9]	Address Signal
A1	Switch Hook Signal
A1S	Ground
A5V[20]	Address Signal



Glossary of Electrical Abbreviations	
Signal Name	Description
A5V[21]	Address Signal
AAD0	Not Used
AAD1	Not Used
AAD2	Not Used
AC(L)	AC Power Supply
AC(N)	AC Power Supply
AGND	Ground
AIRQ	Not Used
AL[0]	Address Signal
AL[1]	Address Signal
AL[10]	Address Signal
AL[11]	Address Signal
AL[12]	Address Signal
AL[2]	Address Signal
AL[3]	Address Signal
AL[4]	Address Signal
AL[5]	Address Signal
AL[6]	Address Signal
AL[7]	Address Signal
AL[8]	Address Signal
AL[9]	Address Signal
ARDY	Not Used
BAT	Battery Voltage
BATVL	Battery Voltage
BBA[0]	S-DRAM Memory Area Switching Signal
BBA[1]	S-DRAM Memory Area Switching Signal
BCS[3]	Chip Select Signal
BCS[4]	Chip Select Signal
BCS[5]	Chip Select Signal
BDCLK[0]	S-DRAM Access Clock
BDCLK[1]	S-DRAM Access Clock
BID[0]	Image -BUS
BID[1]	Image -BUS
BID[10]	Image -BUS
BID[11]	Image -BUS
BID[12]	Image -BUS
BID[13]	Image -BUS
BID[14]	Image -BUS
BID[15]	Image -BUS
BID[2]	Image -BUS
BID[3]	Image -BUS
BID[4]	Image -BUS
BID[5]	Image -BUS
BID[6]	Image -BUS
BID[7]	Image -BUS
BID[8]	Image -BUS

Glossary of Electrical Abbreviations	
Signal Name	Description
BID[9]	Image -BUS
BMA[0]	Address Signal
BMA[1]	Address Signal
BMA[10]	Address Signal
BMA[11]	Address Signal
BMA[12]	Address Signal
BMA[2]	Address Signal
BMA[3]	Address Signal
BMA[4]	Address Signal
BMA[5]	Address Signal
BMA[6]	Address Signal
BMA[7]	Address Signal
BMA[8]	Address Signal
BMA[9]	Address Signal
BMD[0]	Data Signal
BMD[1]	Data Signal
BMD[10]	Data Signal
BMD[11]	Data Signal
BMD[12]	Data Signal
BMD[13]	Data Signal
BMD[14]	Data Signal
BMD[15]	Data Signal
BMD[16]	Data Signal
BMD[17]	Data Signal
BMD[18]	Data Signal
BMD[19]	Data Signal
BMD[2]	Data Signal
BMD[20]	Data Signal
BMD[21]	Data Signal
BMD[22]	Data Signal
BMD[23]	Data Signal
BMD[24]	Data Signal
BMD[25]	Data Signal
BMD[26]	Data Signal
BMD[27]	Data Signal
BMD[28]	Data Signal
BMD[29]	Data Signal
BMD[3]	Data Signal
BMD[30]	Data Signal
BMD[31]	Data Signal
BMD[4]	Data Signal
BMD[5]	Data Signal
BMD[6]	Data Signal
BMD[7]	Data Signal
BMD[8]	Data Signal
BMD[9]	Data Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
BRICLK	Electronic Sorting Board Clock Signal
BUZCLK	Buzzer Clock
BZCLK	Buzzer Signal
CE1	+5 VDC Power Supply
CHARGE	Charge Signal (High Voltage)
CK14M	Modem Clock
CP	Data Shift Clock Signal
CR0	Charge Control DC Output
CR1	Charge Control DC Output
CS	Chip Select Signal
D[0]	Data Signal
D[1]	Data Signal
D[2]	Data Signal
D[3]	Data Signal
D[4]	Data Signal
D[5]	Data Signal
D[6]	Data Signal
D[7]	Data Signal
D0	Data Signal
D1	Data Signal
D2	Data Signal
D3	Data Signal
DAA1	ADF Motor Current Control Signal
DB[0]	Data Signal
DB[1]	Data Signal
DB[2]	Data Signal
DB[3]	Data Signal
DB[4]	Data Signal
DB[5]	Data Signal
DB[6]	Data Signal
DB[7]	Data Signal
DEVELOPMENT	Development Signal (High Voltage)
DR0	Development Control AC+DC Output
E	Data Read/Write Enable Signal
FCK1	Shift Register Clock
FCK2	Shift Register Clock
FCP	Clamp Clock
FER	Transfer Signal (High Voltage)
FGND	Ground
FLNG	Inverter Control Signal
FR	Reset Gate Clock
FRM	Frame Signal
FSH	Transfer Gate Clock
GND	Ground
HITON	Dehumidifier Heater Control Signal
HLIN1	Line Signal for the Fax Handset

Glossary of Electrical Abbreviations	
Signal Name	Description
HLIN2	Line Signal for the Fax Handset
HVAC1	INV PC Board/Lamp Signal
HVAC2	INV PC Board/Lamp Signal
HYBSR	Line Transformer Input Signal
HYSIG	Not Used
ID0	Flash Card ID
ID1	Flash Card ID
ID2	Flash Card ID
IOD[0]	Data Signal
IOD[1]	Data Signal
IOD[10]	Data Signal
IOD[11]	Data Signal
IOD[12]	Data Signal
IOD[13]	Data Signal
IOD[14]	Data Signal
IOD[15]	Data Signal
IOD[2]	Data Signal
IOD[3]	Data Signal
IOD[4]	Data Signal
IOD[5]	Data Signal
IOD[6]	Data Signal
IOD[7]	Data Signal
IOD[8]	Data Signal
IOD[9]	Data Signal
IOD10	Data Signal
IOD11	Data Signal
IOD12	Data Signal
IOD13	Data Signal
IOD14	Data Signal
IOD15	Data Signal
IOD8	Data Signal
IOD9	Data Signal
IORD	I/O Read Signal
IOWR	I/O Write Signal
IOWRH	I/O Write (High) Signal
IOWRL	I/O Write (Low) Signal
KEYIN0	Key Scan Signal
KEYIN1	Key Scan Signal
KEYIN2	Key Scan Signal
KEYIN3	Key Scan Signal
KEYIN4	Key Scan Signal
KEYIN5	Key Scan Signal
KEYIN6	Key Scan Signal
KEYIN7	Key Scan Signal
KIN[1]	Key Scan Signal
KIN[2]	Key Scan Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
KIN[6]	Key Scan Signal
L+5V	Laser Circuit +5 VDC Power Supply
L1(B)	Line Signal
L2(A)	Line Signal
LASERPOW	Laser Power Control
LD2WAY	Photo Sensor DC Drive Voltage
LDCRT	Photo Sensor DC Drive Voltage
LDCST	Photo Sensor DC Drive Voltage
LDCST3	Photo Sensor DC Drive Voltage
LDDUP1	Photo Sensor DC Drive Voltage
LDDUP2	Photo Sensor DC Drive Voltage
LDDUP3	Photo Sensor DC Drive Voltage
LDDUP4	Photo Sensor DC Drive Voltage
LDESEN	Photo Sensor DC Drive Voltage
LDEX1	Photo Sensor DC Drive Voltage
LDEX2	Photo Sensor DC Drive Voltage
LDEX3	Photo Sensor DC Drive Voltage
LDEX4	Photo Sensor DC Drive Voltage
LDFPCHK	Photo Sensor DC Drive Voltage
LDFPCHK2	Photo Sensor DC Drive Voltage
LDFPCHK3	Photo Sensor DC Drive Voltage
LDJAM	Photo Sensor DC Drive Voltage
LDJAM3	Photo Sensor DC Drive Voltage
LDMF4	Photo Sensor DC Drive Voltage
LDMFP	Photo Sensor DC Drive Voltage
LDMFR	Photo Sensor DC Drive Voltage
LDPDOR2	Photo Sensor DC Drive Voltage
LDPHK3	Photo Sensor DC Drive Voltage
LDPS	Photo Sensor DC Drive Voltage
LDROR	Photo Sensor DC Drive Voltage
LDRSEN	Photo Sensor DC Drive Voltage
LDSP2	Photo Sensor DC Drive Voltage
LDUPL	Photo Sensor DC Drive Voltage
LDUPL3	Photo Sensor DC Drive Voltage
LED0	LED Matrix Signal
LED1	LED Matrix Signal
LED2	LED Matrix Signal
LED3	LED Matrix Signal
LED4	LED Matrix Signal
LED5	LED Matrix Signal
LED6	LED Matrix Signal
LED7	LED Matrix Signal
LEDA	Select Sensor Signal
LEDB	Select Sensor Signal
LEDC	Select Sensor Signal
LEDCT0	LED Matrix Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
LEDCT1	LED Matrix Signal
LEDX	Select Sensor Signal
LEDY	Select Sensor Signal
LEDZ	Select Sensor Signal
LH[3]	LED Matrix Signal
LINK	LANB PCB/ LANC PCB Link Signal
LOAD	Data Latch Signal
LV[0]	LED Matrix Signal
LV[1]	LED Matrix Signal
LV[2]	LED Matrix Signal
LV[3]	LED Matrix Signal
LV[5]	LED Matrix Signal
LV[6]	LED Matrix Signal
LV[7]	LED Matrix Signal
LV[8]	LED Matrix Signal
MGND	Ground
MIC (-)	Handset Microphone
MIC (+)	Handset Microphone
n2WAYKEP1	Paper Stopper Solenoid Signal
n2WAYKEP2	Paper Stopper Solenoid Signal
n2WAYSSEN	Inner Upper Tray Paper Exit Signal
n5VCBSY	Command Busy Signal
n5VCMD	Command Signal
n5VCS2	Chip Select Signal
n5VFED	Feed Signal
n5VLPCLK	Clock Signal
n5VPDLRD	Read Signal
n5VPRNT	Printer On Signal
n5VRD	CPU Read Signal
n5VREQ	Video Request Signal
n8P16M	Sort Memory Capacity Signal
nA[0]	Address Signal
nA3SEN	Sheet Bypass Paper Size Detection Signal
nA3SN	Original Width Detection Signal
nAA3S	Original Width Detection Signal
nAADL1	Original Length Detection Signal
nAADL2	Original Length Detection Signal
nAAPNT	Original Detection Signal
nAB1SN	Read Point Detection Signal
nAB2SN	Duplex Eject Detection Signal
nAB4S	Original Width Detection Signal
nACK[1]	Modem ACK[1] Signal
nACLH3	Inverting Roller Clutch Control Signal
nACLOCKAD1	ADF Motor Control Clock Signal
nACSW	Relay Control Signal
nADF1	Feed Roller Drive Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
nADF2	2nd Paper Tray Feed Roller Drive Signal
nADF3	3rd Paper Tray Feed Roller Drive Signal
nADL1	Original Length Detection Signal
nADL2	Original Length Detection Signal
nAEJC	Original Eject Detection Signal
nAKEEP1	Reversing 1 Guide Solenoid Control Signal
nAKEEP2	Reversing 1 Guide Solenoid Control Signal
nAOAC	ADF Cover Open Detection Signal
nAPACHG	Duplex 2 Guide Solenoid Control Signal
nAPICR	Release Lever Plate Solenoid Control Signal
nAREV	ADF Exit Cover Open Detection Signal
nASTAMP	Stamp Control Signal
nASTROAD1	ADF Motor Control Strobe Signal
nATARST	Not Used
nB4SENS	Sheet Bypass Paper Detection Signal
nBCAS	S-DRAM Column Address Strobe Command
nBCKE	S-DRAM Clock Enable
nBCS[2]	Chip Select Signal
nBCS[3]	Chip Select Signal
nBCS[4]	Not Used
nBCS[5]	Not Used
nBDQMH	Input/Output Mask Signal
nBDQML	Input/Output Mask Signal
nBMWT	S-DRAM Write Enable
nBRAS	S-DRAM Row Address Strobe Command
nCARTRIGE	Waste Toner Box Detection Signal
nCASETT	Paper Tray Detection Signal (1st Feeder)
nCCLH1	Feed 2 Roller Clutch Control Signal
nCCLH2	ADF Roller Clutch Control Signal
nCD	Flash Card ID
nCNTDET	Key Counter Option Detection
nCOUNT	Counter Drive Signal
nCS00	Modem Control Signal
nCS02	Chip Select Signal
nCS03	Chip Select Signal
nCS05	Chip Select Signal
nCS08	Chip Enable Signal
nCS09	Chip Enable Signal
nCS0A	Chip Enable Signal
nCS0D	Chip Enable Signal
nCS0E	Chip Enable Signal
nCS11	Chip Select Signal
nCS3	Chip Select Signal
nCST	4th Paper Tray Detection Signal
nCST2	2nd Paper Tray Detection Signal
nCST3	3rd Paper Tray Detection Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
nCSTOP	2nd Paper Feed Module Detection Signal
nCTON	Ring Detection Signal
nCTON2	Ring Detection Signal
nDADFON	ADF Option Detection Signal
nDOOR	Paper Transport Unit Open Detection Signal
nDRAKR	Direct Memory Accept Signal
nDRAKS	DMA Accept Signal
nDSPOFF	Display Off Signal
nDUPSEN1	Duplex Sensor1 Signal
nDUPSEN2	Duplex Unit Paper Detection Signal
nDUPSEN3	Duplex Unit Paper Detection Signal
nDUPSEN4	Duplex Unit Paper Detection Signal
nEBZON	Buzzer Enable Signal
nESEN	Inner Under Tray Paper Exit Signal
nEXDF1	Paper Transport Unit Paper Detection Signal
nEXDF2	Paper Transport Unit Paper Detection Signal
nEXDF3	Paper Transport Unit Paper Detection Signal
nEXDF4	Paper Transport Unit Paper Detection Signal
nFAXDET	Fax Option Detection Signal
nFDBSY	Feed Busy Signal
nFDPCHK	4th Paper Tray Paper Registration Detection Signal
nFDPCHK2	2nd Paper Tray Paper Registration Detection Signal
nFDPCHK3	3rd Paper Tray Paper Registration Detection Signal
nFDPCHK4	4th Paper Tray Paper Registration Detection Signal
nFLON	Inverter Ground
nFNRTD	Fan Ready Signal
nFXBOPT	Fax Option Detection Signal
nHDF	Multi Feeder Feed Roller Drive Signal
nHKOF	External Phone Off-Hook Detection Signal
nHKOF2	Hook Detection Signal
nHSDT	Handset Off-Hook Detection Signal
nHSYNC	Horizontal Synchronous Signal
nIODACK[6]	Direct Memory Access Data Receive Signal
nIODACK[7]	Direct Memory Access Data Receive Signal
nIORD	I/O Read Signal
nIORST3V	Reset Signal
nIOWR	I/O Write Signal
nIOWRH	I/O Write (High) Signal
nIOWRL	I/O Write (Low) Signal
nIRQBS0	Printer Interrupt Signal
nIRQBS1	Printer Interrupt Signal
nIRQMD0	Modem Interrupt Request Signal
nIRQOP1	Interrupt Signal
nIRQOP2	Interrupt Signal
nJAMDOR	2nd Paper Tray Jam Access Cover Open Detection Signal
nJAMDOR2	2nd Paper Tray Jam Access Cover Open Detection Signal



Glossary of Electrical Abbreviations	
Signal Name	Description
nJAMDOR3	3rd Paper Tray Jam Access Cover Open Detection Signal
nKCNT	Key Counter Option
nKEEP1	Paper Stopper Solenoid Signal
nKEEP2	Paper Stopper Solenoid Signal
nLDON	Laser Control
nLIFTM2	2nd Paper Tray Lift Motor Drive Signal
nLIFTM3	3rd Paper Tray Lift Motor Drive Signal
nLPOW	Energy Saver Mode Control Signal
nMB4	Memory Version Detection Signal
nMDRST	Modem Reset Signal
nMFPCCK	Sheet Bypass Paper Detection Signal
nMFRCHK	Sheet Bypass Pressure Plate Detection Signal
nMFSEN4	Sheet Bypass Paper Length Detection Signal
nMIRQBG	Interrupt Request Signal
nMIRQMD1	Modem Interrupt Request Signal
nMIRQPDL	Interrupt Request Signal
nMIRQPM	Interrupt Request Signal
nMMCK	Printer Motor Clock
nMMON	Printer Motor Rotation Control Signal
nMMP0a	Motor Drive Signal
nMMP2a	Motor Drive Signal
nMMRDY	Lift DC Motor Ready Signal
nMRCLH2	2nd Paper Tray Intermediate Roller Clutch Drive Signal
nMRCLH3	3rd Paper Tray Intermediate Roller Clutch Drive Signal
nOE	Read Enable
nOP2WAY	Dual-Path Exit Guide Unit Detection Signal
nOP3RST	Paper Tray Interface Reset Signal
nOPB1	Option Detection Signal
nOPB2	Option Detection Signal
nOPB3	Option Detection Signal
nOPCBSY	Paper Tray Command Busy Signal
nOPCLK	Paper Tray Command Status Clock Signal
nOPCMD	Paper Tray Command Signal
nOPDUP	Duplex Unit Option Detection
nOPFEDBSY	Paper Tray Feed Clutch Busy Signal
nOPFEED	Paper Tray Feed Clutch Signal
nOPON	Option Detection Signal
nOPSBSY	Paper Tray Status Busy Signal
nOPSTA	Paper Tray Status Signal
nOPTRP	Transport Unit Installed Detection Signal
nORI	Home Position Detection Signal
nOUTA	Motor Control Signal
nOUTB	Motor Control Signal
nPCHK	4th Paper Tray Paper Detection Signal
nPCHK1	1st Paper Tray Paper Detection Signal
nPCHK2	2nd Paper Tray Paper Detection Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
nPCHK3	3rd Paper Tray Paper Detection Signal
nPDLOPT	Option Detection Signal
nPDLRST	Reset Signal
nPDOR2	2nd Paper Tray Paper Level Signal
nPHY1	Shift Register Clock
nPHY2	Shift Register Clock
nPHYCP	Clamp Clock
nPHYR	Reset Gate Clock
nPMON	Polygon Motor Rotation Signal
nPMRDY	Polygon Motor Ready Signal
nPNLRST	Panel Reset Signal
nPRDY	Printer Ready Signal
nPSAVE	Energy Saver Mode Transport Signal
nPSDES	Energy Saver Mode Disable Signal
nRD	Read Pulse
nRRCLH	Registration Roller Drive Signal
nRSEN	Registration Sensor Signal
nRST	IPC PC Board Reset Signal
nRST3V	Reset Signal
nRST5V	Reset Signal
nS/H	Sample Hold Signal
nSBACK	Direct Memory Access BUS Receive Signal
nSBSY	Status Busy Signal
nSCBSY	Command Busy Signal
nSCRST	Reset Signal
nSDACK	Direct Memory Access Data Receive Signal
nSENT	PRIF PCB Detection Signal
nSLPKY	Sleep Key Signal
nSLPKY1	Sleep Key Signal
nSORDET	Sort Option Detection Signal
nSOROPT	Print Speed Signal
nSPON	Speaker SW
nSSBSY	Status Busy Signal
nSSR	Heater Control Signal
nSTA	Status Signal
nSWAKUP	Energy Saver Reset Signal
nTRPJAM	Transport Unit Open Detection Signal
nTRPSEN1	Transport Unit Sensor Signal
nTRPSEN2	Transport Unit Sensor Signal
nTRPSEN3	Transport Unit Sensor Signal
nTRPSEN4	Transport Unit Sensor Signal
nUPLIMIT	4th Paper Tray Paper Level Signal
nUPLIMIT1	Paper Level Signal (1st Feeder)
nUPLIMIT2	2nd Paper Tray Paper Level Signal
nUPLMT3	3rd Paper Tray Paper Level Signal
nVOL0	Monitor Volume

Glossary of Electrical Abbreviations	
Signal Name	Description
nVOL1	Monitor Volume
nVOL2	Monitor Volume
nVOL3	Monitor Volume
nVSYNC	Vertical Synchronous Signal
nWAIT	BUS Wait Signal
nWAIT[1]	BUS Wait Signal
nWAIT[2]	BUS Wait Signal
nWAIT[3]	BUS Wait Signal
nWAIT[4]	BUS Wait Signal
nWAIT[5]	BUS Wait Signal
nWAKUP	Energy Saver Mode Enable
nWAKUPPC	Energy Saver Mode Reset Signal
nWEL	Write Low Enable
nWR	Light Pulse
nWRH	High Enable
OPPRST	Ground
ORISENCMN	Sensor +2.8 VDC Power Supply
OUTA	Motor Control Signal
OUTB	Motor Control Signal
p5VBKCNT0	Memory Area Switching Signal
p5VBKCNT1	Memory Area Switching Signal
pABCON	Reserved Signal
pACLH1	Feed 2 Roller Clutch Control Signal
pACLH2	ADF Roller Clutch Control Signal
pACLH3	Inverting Roller Clutch Control Signal
pADATA1A	ADF Motor Control Signal
pADATA1B	ADF Motor Control Signal
pADF	4th Paper Tray Registration Signal
pAPACHG	Duplex 2 Guide Solenoid Control Signal
pAPICR	Release Lever Plate Solenoid Control Signal
pASTAMP	ADF Stamp Solenoid Control Signal
pBREQ	Direct Memory Access Data Request Signal
pCMLD	Line Switching Relay Drive Signal
pCMLDA	Line Switching Relay Drive Signal
PD[0]	Data Signal
PD[1]	Data Signal
PD[10]	Data Signal
PD[11]	Data Signal
PD[12]	Data Signal
PD[13]	Data Signal
PD[14]	Data Signal
PD[15]	Data Signal
PD[2]	Data Signal
PD[3]	Data Signal
PD[4]	Data Signal
PD[5]	Data Signal

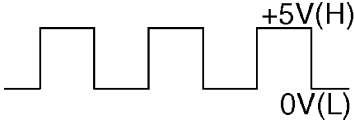
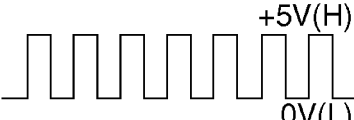
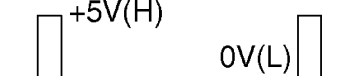
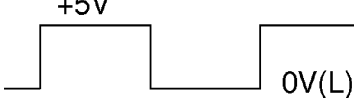
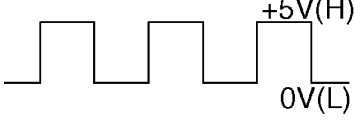
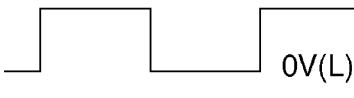
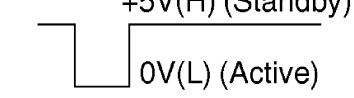

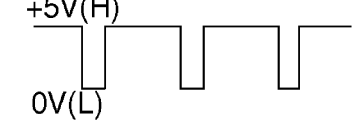


Glossary of Electrical Abbreviations	
Signal Name	Description
PD[6]	Data Signal
PD[7]	Data Signal
PD[8]	Data Signal
PD[9]	Data Signal
pDREQRIS	Direct Memory Accept Data Request Signal
pDREQSEN	PRIF DMA Switching Signal
pEAKD	Not Used
pFDCHK3	3rd Paper Tray Registration Signal
PHYTG	Transfer Gate Clock
pIODREQ[6]	Direct Memory Access Data Request Signal
pIODREQ[7]	Direct Memory Access Data Request Signal
pIOOACK[4]	Direct Memory Access Data Receive Signal
pIOOACK[5]	Direct Memory Access Data Receive Signal
pIOOREQ[4]	Direct Memory Access Data Request Signal
pIOOREQ[5]	Direct Memory Access Data Request Signal
pKEEP1	ADF Document Stopper Solenoid Control Signal
pKEEP2	ADF Document Stopper Solenoid Control Signal
pLCDON	Inverter Control Signal
pLDCTL	Laser Control
pLEDON0	LED Lighting Signal
pLEDON1	LED Lighting Signal
pLEDSLP	LED Lighting Signal
pLIFT	4th Paper Tray Lift Motor Signal
pLIFT2	2nd Paper Tray Lift Motor Signal
pLPRST	LP Reset Signal
PMCK	Polygon Motor Clock
pMIRQCD0	Interrupt Request Signal
pMIXDT	Line Switching Relay Drive Signal
pMMP0a	Motor Drive Signal
pMMP2a	Motor Drive Signal
pMONSW	Monitor SW
pMRCLH	4th Paper Tray Intermediate Roller Clutch Signal
pMRCLH2	2nd Paper Tray Intermediate Roller Clutch Signal
pNAISEN	Line Switching Relay Drive Signal
PNLCK	Communication Clock Signal
pOP1RST	Reset Signal
pOP2RST	Reset Signal
pOP3RST	Reset Signal
pPADF2	2nd Paper Tray Registration Signal
pPDLREQ	Direct Memory Access Data Request Signal
pPHY1	Shift Register Clock
pPHY2	Shift Register Clock
pPHYCP	Clamp Clock
pPHYR	Reset Gate Clock
pPLSD	Pulse Dial Relay Drive Signal
pPRIrst	Printer Reset Signal

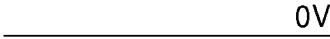
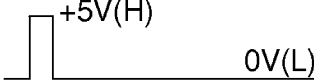

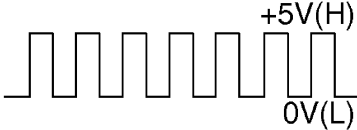
Glossary of Electrical Abbreviations	
Signal Name	Description
PRXD	Reception Signal
pTCKD	Not Used
pTRPKEP1	Transport Unit Solenoid Signal
pTRPKEP2	Transport Unit Solenoid Signal
pTRPMDA	Transport Unit Motor Signal
pTRPMDB	Transport Unit Motor Signal
pTRPMNA	Transport Unit Motor Signal
pTRPMNB	Transport Unit Motor Signal
PTXD	Transmission Signal
pVREF1	Transport Unit Motor Current Setup Signal
pVREF2	Transport Unit Motor Current Setup Signal
pZCIN	Heater Control Signal
R/W	Data Read/Write Select Signal
RCV (-)	Handset Receiver
RCV (+)	Handset Receiver
RS	Resister Select Signal
RX-	Reception Data "-" Signal
RX+	Reception Data "+" Signal
RXD	Reception Data Signal
SCN[0]	Key Scan Signal
SCN[1]	Key Scan Signal
SCN1	Key Scan Signal
SCN2	Key Scan Signal
SCN3	Key Scan Signal
SCN4	Key Scan Signal
SCN5	Key Scan Signal
SCPURXD5V	Reception Data Signal
SCPUTXD5V	Transmission Data Signal
SMEMID[0]	Memory ID
SMEMID[1]	Memory ID
SMEMID[2]	Memory ID
SMEMID[3]	Memory ID
SPKOUT	Monitor Signal
T1	Line Signal for the External Telephone
T2	Line Signal for the External Telephone
TGND	Ground
THERM	Thermistor Output Signal
THERM2	Thermistor Output Signal
TONERSEN	Toner Sensor Signal
TR0	Transfer Control Cleaning Output
TR1	Transfer Control Transfer Output
TRCP	+2.5 VDC Power Supply
TURS	Not Used
TX-	Transmission Data "-" Signal
TX+	Transmission Data "+" Signal
TXD	Transmission Data Signal

Glossary of Electrical Abbreviations	
Signal Name	Description
V0	+0.16 VDC Power Supply
VCC	+5 VDC Power Supply
VDD	+5 VDC Power Supply
-VDO	Video Signal (LVPS - Output)
VEE	+24 VDC Power Supply
VINA	Sensor Input Signal
VINX	Sensor Input Signal
VLCD	LCD Drive Volume Voltage
VOUT1	Graphic Data Output
VOUT2	Graphic Data Output
VOUTA	Sensor Control Signal
VOUTX	Sensor Control Signal
VSS	Ground
X1	Touch Panel Matrix Signal
X2	Touch Panel Matrix Signal
Y1	Touch Panel Matrix Signal
Y2	Touch Panel Matrix Signal





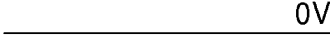
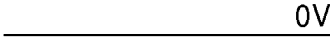

### 3.6. SC PC Board

#### CN100

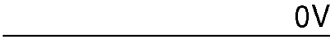
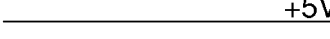
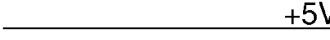
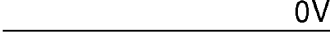
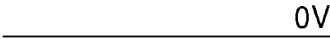
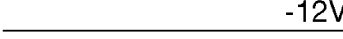
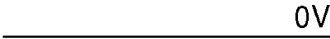
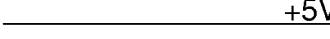
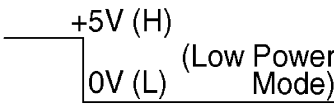
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN100-1	nSTA	LPC PCB CN720-1		Status Signal
CN100-2	n5VLPCLK	LPC PCB CN720-2		Clock Signal
CN100-3	nVSYNC	LPC PCB CN720-3		Vertical Synchronous Signal
CN100-4	nSBSY	LPC PCB CN720-4		Status Busy Signal H: Status Not Busy L: Status Busy
CN100-5	n5VCMD	LPC PCB CN720-5		Command Signal
CN100-6	n5VCBSY	LPC PCB CN720-6		Command Busy Signal H: Command Not Busy L: Command Busy
CN100-7	n5VPRNT	LPC PCB CN720-7		Printer On Signal
CN100-8	nPRDY	LPC PCB CN720-8		Printer Ready Signal H: Not Ready L: Ready
CN100-9	nHSYNC	LPC PCB CN720-9		Horizontal Synchronous Signal
CN100-10	GND	LPC PCB CN720-10		Ground
CN100-11	n5VFED	LPC PCB CN720-11		Feed Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN100-12	GND	LPC PCB CN720-12		Ground
CN100-13	pLPRST	LPC PCB CN720-13		LP Reset Signal H: Reset L: Not Reset
CN100-14	nFDBSY	LPC PCB CN720-14		Feed Busy Signal H: Feed Not Busy L: Feed Busy
CN100-15	5HPCLK	LPC PCB CN720-15		LSU Clock


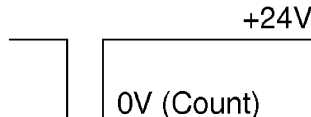
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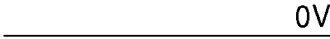
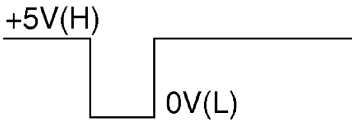
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN101-1	+24V	LVPS PCB CN61-1		+24 VDC Power Supply
CN101-2	+24V	LVPS PCB CN61-2		+24 VDC Power Supply
CN101-3	+24V	LVPS PCB CN61-3		+24 VDC Power Supply
CN101-4	+24V	LVPS PCB CN61-4		+24 VDC Power Supply
CN101-5	MGND	LVPS PCB CN61-5		Ground
CN101-6	MGND	LVPS PCB CN61-6		Ground
CN101-7	MGND	LVPS PCB CN61-7		Ground








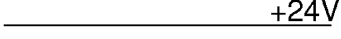
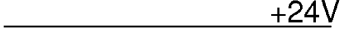
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN101-8	MGND	LVPS PCB CN61-8		Ground
CN101-9	+5VI	LVPS PCB CN61-9		+5 VDC Power Supply
CN101-10	+5VI	LVPS PCB CN61-10		+5 VDC Power Supply
CN101-11	GND	LVPS PCB CN61-11		Ground
CN101-12	GND	LVPS PCB CN61-12		Ground
CN101-13	-12V	LVPS PCB CN61-13		-12 VDC Power Supply
CN101-14	AGND	LVPS PCB CN61-14		Ground
CN101-15	+5PVP	LVPS PCB CN61-15		Backup +5 VDC Power Supply
CN101-16	nLPOW	LVPS PCB CN61-16		Energy Saver Mode Control Signal




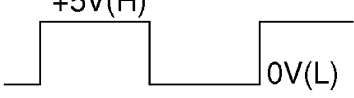
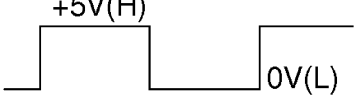
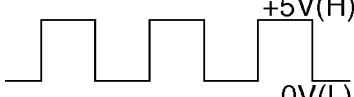
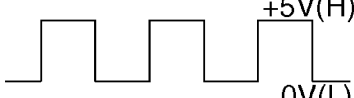

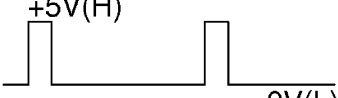
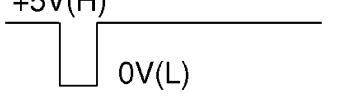
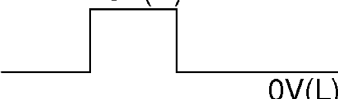
## CN102

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN102-1	+24V	Key Counter Option		+24 VDC Power Supply
CN102-2	nKCNT	Key Counter Option		Key Counter Option

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN102-3	GND	Key Counter Option		Ground
CN102-4	nCNTDET	Key Counter Option		Key Counter Option Detection H: Option Not Installed L: Option Installed
CN102-5	N.C.			
CN102-6	N.C.			

### CN103

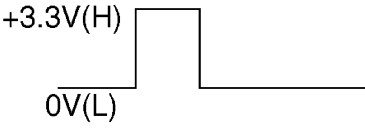
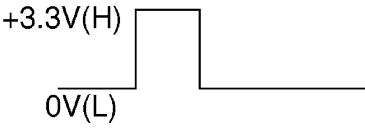
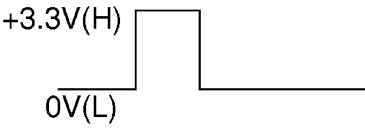
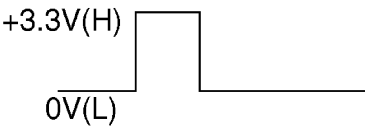
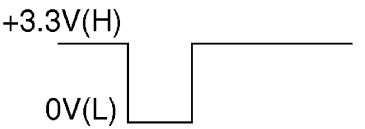

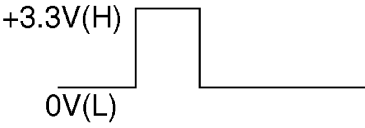
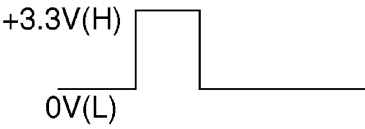
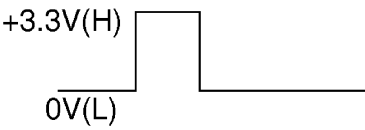
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN103-1	GND	SCN PCB CN2-1		Ground
CN103-2	GND	SCN PCB PC Board CN2-2		Ground
CN103-3	MGND	SCN PCB CN2-3		Ground
CN103-4	MGND	SCN PCB CN2-4		Ground
CN103-5	MGND	SCN PCB CN2-5		Ground
CN103-6	+24V	SCN PCB CN2-6		+24 VDC Power Supply
CN103-7	+24V	SCN PCB CN2-7		+24 VDC Power Supply

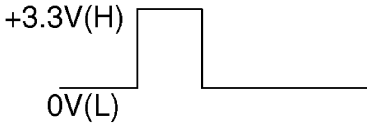
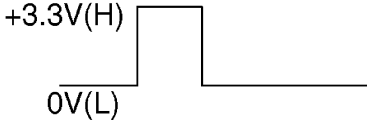
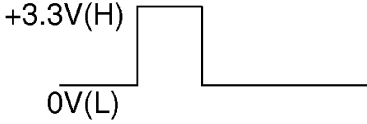
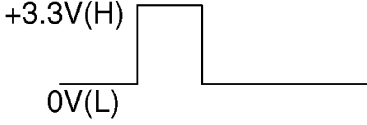
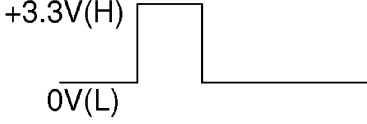
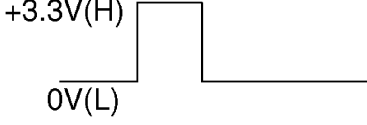
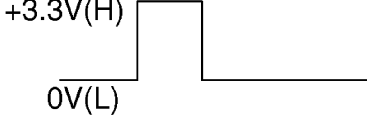
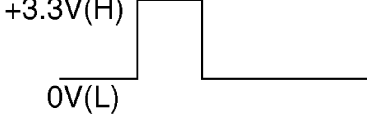
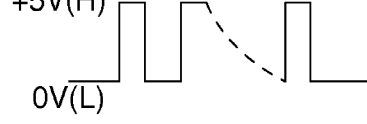
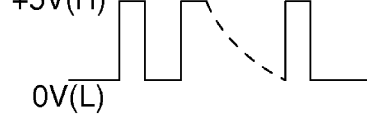
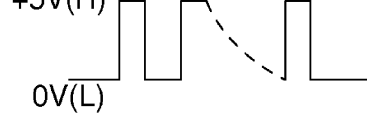
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN103-8	+24V	SCN PCB CN2-8		+24 VDC Power Supply
CN103-9	+5V	SCN PCB CN2-9		+5 VDC Power Supply
CN103-10	+5VP	SCN PCB CN2-10		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN103-11	nSCBSY	SCN PCB CN2-11		Command Busy Signal H: Command Not Busy L: Command Busy
CN103-12	nSSBSY	SCN PCB CN2-12		Status Busy Signal H: Status Not Busy L: Status Busy
CN103-13	SCPUTXD5V	SCN PCB CN2-13		Transmission Data Signal
CN103-14	SCPURXD5V	SCN PCB CN2-14		Reception Data Signal
CN103-15	N.C.	SCN PCB CN2-15		Not Used
CN103-16	n5VREQ	SCN PCB CN2-16		Video Request Signal
CN103-17	5SENTIM	SCN PCB CN2-17		Clock Signal
CN103-18	nSCRST	SCN PCB CN2-18		Reset Signal
CN103-19	pABCON	SCN PCB CN2-19		Reserved Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN103-20	nSWAKUP	SCN PCB CN2-20		Energy Saver Reset Signal H: Not Reset L: Reset

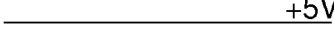
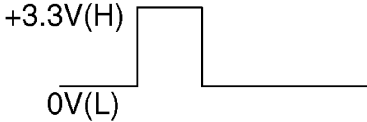
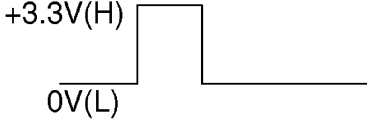
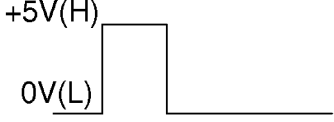

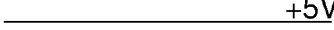

#### CN104

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-1	GND	FLASH CARD CN1-1		Ground
CN104-2	IOD[3]	FLASH CARD CN1-2		Data Signal
CN104-3	IOD[4]	FLASH CARD CN1-3		Data Signal
CN104-4	IOD[5]	FLASH CARD CN1-4		Data Signal
CN104-5	IOD[6]	FLASH CARD CN1-5		Data Signal
CN104-6	IOD[7]	FLASH CARD CN1-6		Data Signal
CN104-7	CE1	FLASH CARD CN1-7		+5 VDC Power Supply
CN104-8	A[11]	FLASH CARD CN1-8		Address Signal
CN104-9	nOE	FLASH CARD CN1-9		Read Enable H: Read Disable L: Read Enable
CN104-10	A[12]	FLASH CARD CN1-10		Address Signal

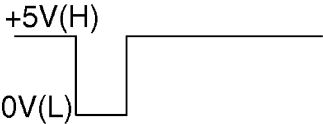
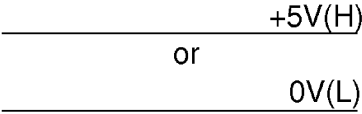

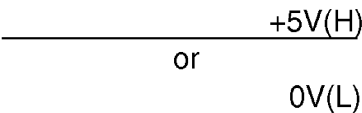
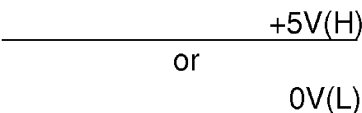
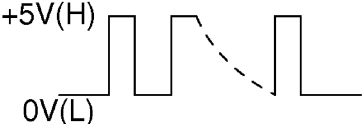
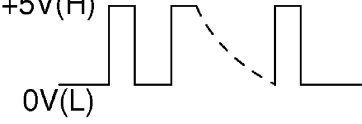
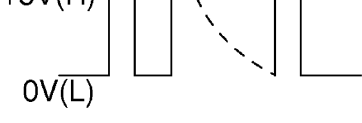
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-11	A[10]	FLASH CARD CN1-11		Address Signal
CN104-12	A[9]	FLASH CARD CN1-12		Address Signal
CN104-13	A[14]	FLASH CARD CN1-13		Address Signal
CN104-14	A[15]	FLASH CARD CN1-14		Address Signal
CN104-15	nWEL	FLASH CARD CN1-15		Write Low Enable H: Write Disable L: Write Enable
CN104-16	N.C.	FLASH CARD CN1-16		Not Used
CN104-17	VCC	FLASH CARD CN1-17		+5 VDC Power Supply
CN104-18	N.C.	FLASH CARD CN1-18		Not Used
CN104-19	A[17]	FLASH CARD CN1-19		Address Signal
CN104-20	A[16]	FLASH CARD CN1-20		Address Signal
CN104-21	A[13]	FLASH CARD CN1-21		Address Signal

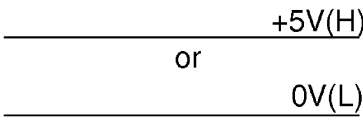
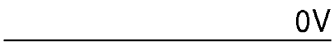
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-22	A[8]	FLASH CARD CN1-22		Address Signal
CN104-23	A[7]	FLASH CARD CN1-23		Address Signal
CN104-24	A[6]	FLASH CARD CN1-24		Address Signal
CN104-25	A[5]	FLASH CARD DCN1-25		Address Signal
CN104-26	A[4]	FLASH CARD CN1-26		Address Signal
CN104-27	A[3]	FLASH CARD CN1-27		Address Signal
CN104-28	A[2]	FLASH CARD CN1-28		Address Signal
CN104-29	A[1]	FLASH CARD CN1-29		Address Signal
CN104-30	IOD[0]	FLASH CARD CN1-30		Data Signal
CN104-31	IOD[1]	FLASH CARD CN1-31		Data Signal
CN104-32	IOD[2]	FLASH CARD CN1-32		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-33	nWRH	FLASH CARD CN1-33	<p>+3.3V(H) 0V(L)</p>	High Enable H: Disable L: Enable
CN104-34	GND	FLASH CARD CN1-34	<p>0V</p>	Ground
CN104-35	GND	FLASH CARD CN1-35	<p>0V</p>	Ground
CN104-36	nCD	FLASH CARD CN1-36	<p>5V(H) 0V(L)</p>	Flash Card ID H: Card Not Installed L: Card Installed
CN104-37	IOD[11]	FLASH CARD CN1-37	<p>+5V(H) 0V(L)</p>	Data Signal
CN104-38	IOD[12]	FLASH CARD CN1-38	<p>+5V(H) 0V(L)</p>	Data Signal
CN104-39	IOD[13]	FLASH CARD CN1-39	<p>+5V(H) 0V(L)</p>	Data Signal
CN104-40	IOD[14]	FLASH CARD CN1-40	<p>+5V(H) 0V(L)</p>	Data Signal
CN104-41	IOD[15]	FLASH CARD CN1-41	<p>+5V(H) 0V(L)</p>	Data Signal
CN104-42	n5VCS2	FLASH CARD CN1-42	<p>+5V(H) 0V(L)</p>	Chip Select Signal
CN104-43	N.C.	FLASH CARD CN1-43		Not Used

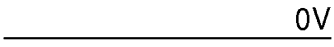
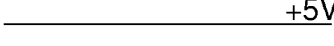
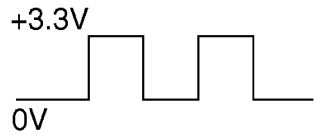
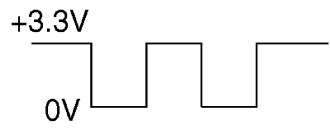
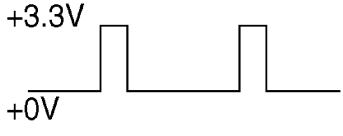

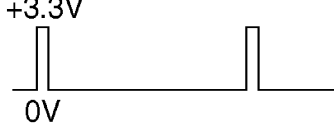
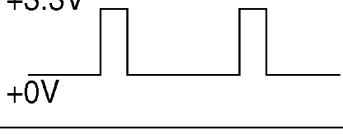
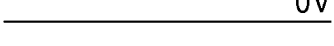
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-44	+5V	FLASH CARD CN1-44		+5 VDC Power Supply
CN104-45	+5V	FLASH CARD CN1-45		+5 VDC Power Supply
CN104-46	A[18]	FLASH CARD CN1-46		Address Signal
CN104-47	A[19]	FLASH CARD CN1-47		Address Signal
CN104-48	A5V[20]	FLASH CARD CN1-48		Address Signal
CN104-49	A5V[21]	FLASH CARD CN1-49		Address Signal
CN104-50	p5VBKCNT0	FLASH CARD CN1-50		Memory Area Switching Signal
CN104-51	VCC	FLASH CARD CN1-51		+5 VDC Power Supply
CN104-52	N.C.	FLASH CARD CN1-52		Not Used
CN104-53	p5VBKCNT1	FLASH CARD CN1-53		Memory Area Switching Signal
CN104-54	N.C.	FLASH CARD CN1-54		Not Used
CN104-55	N.C.	FLASH CARD CN1-55		Not Used

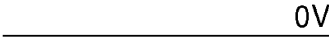
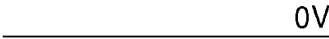
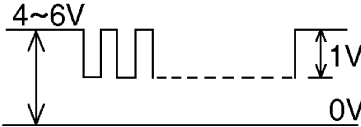

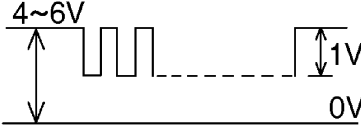
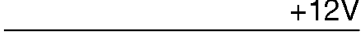
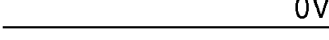


SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-56	N.C.	FLASH CARD CN1-56		Not Used
CN104-57	N.C.	FLASH CARD CN1-57		Not Used
CN104-58	nRST5V	FLASH CARD CN1-58		Reset Signal H: Not Reset L: Reset
CN104-59	nMB4	FLASH CARD CN1-59		Memory Version Detection Signal
CN104-60	N.C.	FLASH CARD CN1-60		Not Used
CN104-61	GND	FLASH CARD CN1-61		Ground
CN104-62	ID2	FLASH CARD CN1-62		Flash Card ID
CN104-63	ID1	FLASH CARD CN1-63		Flash Card ID
CN104-64	IOD[8]	FLASH CARD CN1-64		Data Signal
CN104-65	IOD[9]	FLASH CARD CN1-65		Data Signal
CN104-66	IOD[10]	FLASH CARD CN1-66		Data Signal

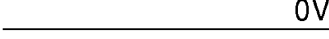
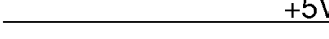
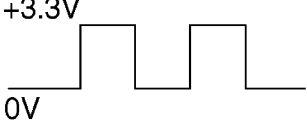
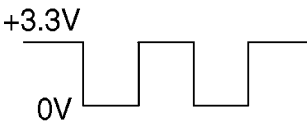
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-67	ID0	FLASH CARD CN1-67		Flash Card ID
CN104-68	GND	FLASH CARD CN1-68		Ground

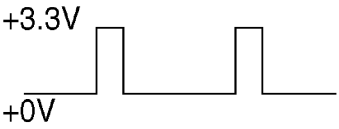
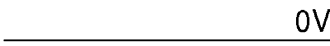

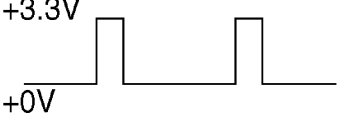
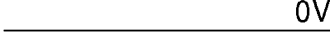
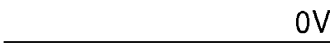

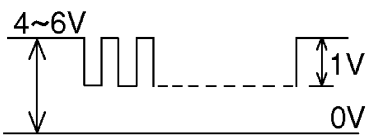

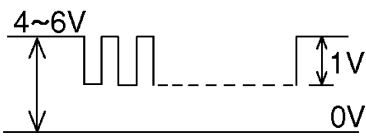
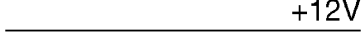
#### CN106 (For DP-2000/2500)

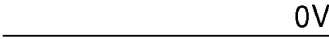
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-1	GND	CCD PCB CN51-1		Ground
CN106-2	+5V	CCD PCB CN51-2		+5 VDC Power Supply
CN106-3	FCK1	CCD PCB CN51-3		Shift Register Clock
CN106-4	FCK2	CCD PCB CN51-4		Shift Register Clock
CN106-5	FCP	CCD PCB CN51-5		Clamp Clock
CN106-6	GND	CCD PCB CN51-6		Ground
CN106-7	FSH	CCD PCB CN51-7		Transfer Gate Clock
CN106-8	FR	CCD PCB CN51-8		Reset Gate Clock
CN106-9	AGND	CCD PCB CN51-9		Ground

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-10	AGND	CCD PCB DCN51-10		Ground
CN106-11	AGND	CCD PCB CN51-11		Ground
CN106-12	VOUT2	CCD PCB CN51-12		Graphic Data Output
CN106-13	AGND	CCD PCB CN51-13		Ground
CN106-14	VOUT1	CCD PCB CN51-14		Graphic Data Output
CN106-15	+12V	CCD PCB CN51-15		+12 VDC Power Supply
CN106-16	AGND	CCD PCB CN51-16		Ground

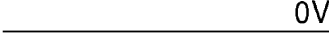
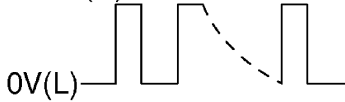
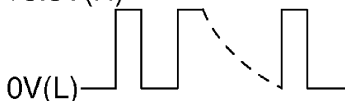
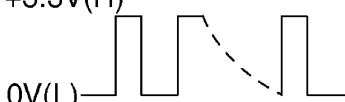
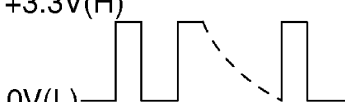
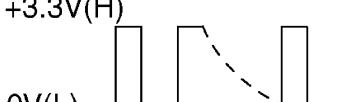
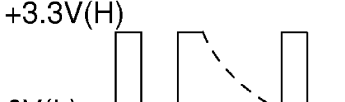
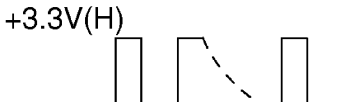
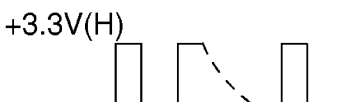
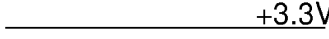
#### CN106 (For DP-3000)


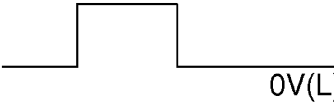
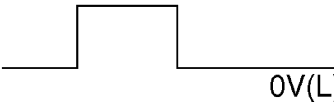
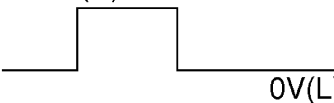
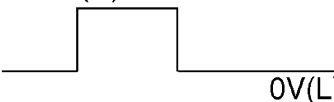
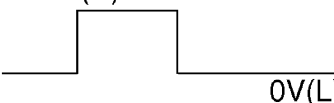
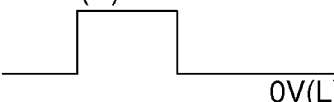
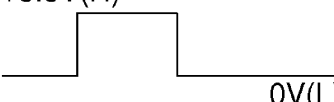
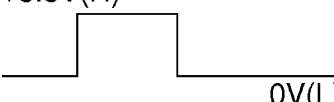
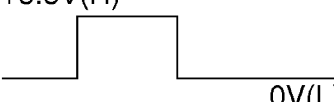
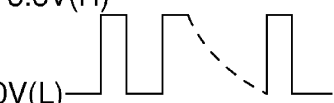
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-1	GND	CONS PCB CN57-1		Ground
CN106-2	+5V	CONS PCB CN57-2		+5 VDC Power Supply
CN106-3	FCK1	CONS PCB CN57-3		Shift Register Clock
CN106-4	FCK2	CONS PCB CN57-4		Shift Register Clock

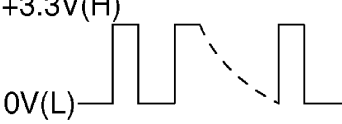
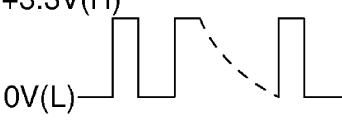
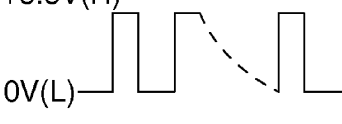

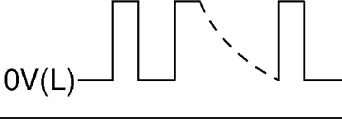
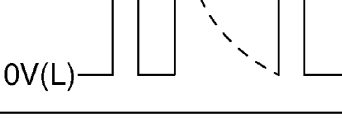

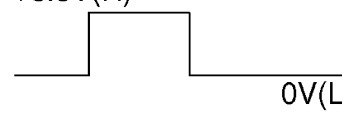
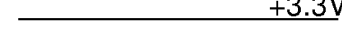
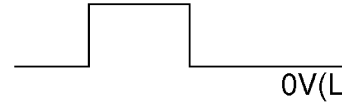
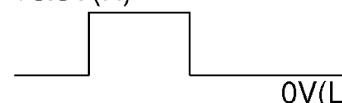
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-5	FCP	CONS PCB CN57-5		Clamp Clock
CN106-6	GND	CONS PCB CN57-6		Ground
CN106-7	FSH	CONS PCB CN57-7		Transfer Gate Clock
CN106-8	FR	CONS PCB CN57-8		Reset Gate Clock
CN106-9	AGND	CONS PCB CN57-9		Ground
CN106-10	AGND	CONS PCB DCN57-10		Ground
CN106-11	AGND	CONS PCB CN57-11		Ground
CN106-12	VOUT2	CONS PCB CN57-12		Graphic Data Output
CN106-13	AGND	CONS PCB CN57-13		Ground
CN106-14	VOUT1	CONS PCB CN57-14		Graphic Data Output
CN106-15	+12V	CONS PCB CN57-15		+12 VDC Power Supply

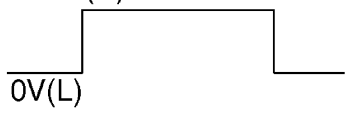

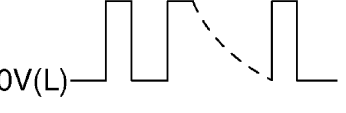
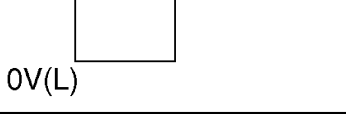

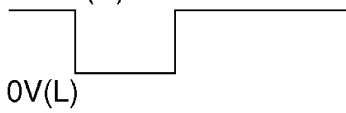
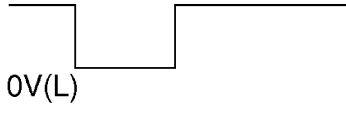
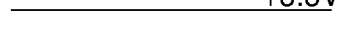
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-16	AGND	CONS PCB CN57-16	 0V	Ground

#### CN107


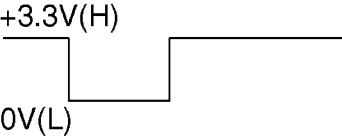
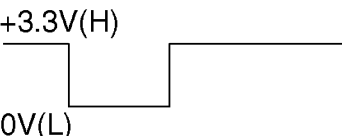
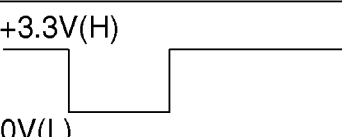
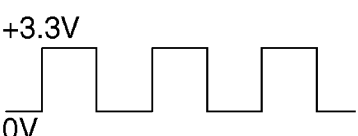
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-1	GND	SDRM PCB CN1-1	 0V	Ground
CN107-2	BMD[0]	SDRM PCB CN1-2		Data Signal
CN107-3	BMD[1]	SDRM PCB CN1-3		Data Signal
CN107-4	BMD[2]	SDRM PCB CN1-4		Data Signal
CN107-5	BMD[3]	SDRM PCB CN1-5		Data Signal
CN107-6	BMD[4]	SDRM PCB CN1-6		Data Signal
CN107-7	BMD[5]	SDRM PCB CN1-7		Data Signal
CN107-8	BMD[6]	SDRM PCB CN1-8		Data Signal
CN107-9	BMD[7]	SDRM PCB CN1-9		Data Signal
CN107-10	+3.3V	SDRM PCB CN1-10	 +3.3V	+3.3 VDC Power Supply


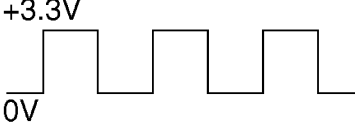
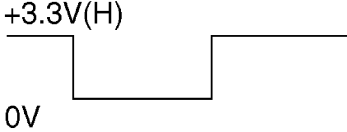
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-11	+3.3V	SDRM PCB CN1-11		+3.3 VDC Power Supply
CN107-12	BMA[0]	SDRM PCB CN1-12		Address Signal
CN107-13	BMA[1]	SDRM PCB CN1-13		Address Signal
CN107-14	BMA[2]	SDRM PCB CN1-14		Address Signal
CN107-15	BMA[3]	SDRM PCB CN1-15		Address Signal
CN107-16	BMA[4]	SDRM PCB CN1-16		Address Signal
CN107-17	BMA[5]	SDRM PCB CN1-17		Address Signal
CN107-18	BMA[6]	SDRM PCB CN1-18		Address Signal
CN107-19	BMA[10]	SDRM PCB CN1-19		Address Signal
CN107-20	BMA[11]	SDRM PCB CN1-20		Address Signal
CN107-21	BMD[8]	SDRM PCB CN1-21		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-22	BMD[9]	SDRM PCB CN1-22		Data Signal
CN107-23	BMD[10]	SDRM PCB CN1-23		Data Signal
CN107-24	BMD[11]	SDRM PCB CN1-24		Data Signal
CN107-25	BMD[12]	SDRM PCB CN1-25		Data Signal
CN107-26	BMD[13]	SDRM PCB CN1-26		Data Signal
CN107-27	BMD[14]	SDRM PCB CN1-27		Data Signal
CN107-28	BMA[7]	SDRM PCB CN1-28		Address Signal
CN107-29	BMA[12]	SDRM PCB CN1-29		Address Signal
CN107-30	+3.3V	SDRM PCB CN1-30		+3.3 VDC Power Supply
CN107-31	BMA[8]	SDRM PCB CN1-31		Address Signal
CN107-32	BMA[9]	SDRM PCB CN1-32		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-33	BBA[0]	SDRM PCB CN1-33		S-DRAM Memory Area Switching Signal
CN107-34	BBA[1]	SDRM PCB CN1-34		S-DRAM Memory Area Switching Signal
CN107-35	BMD[15]	SDRM PCB CN1-35		Data Signal
CN107-36	nBDQML	SDRM PCB CN1-36		Input/Output Mask Signal
CN107-37	N.C.	SDRM PCB CN1-37		Not Used
CN107-38	N.C.	SDRM PCB CN1-38		Not Used
CN107-39	GND	SDRM PCB CN1-39		Ground
CN107-40	N.C.	SDRM PCB CN1-40		Not Used
CN107-41	N.C.	SDRM PCB CN1-41		Not Used
CN107-42	nBCS[2]	SDRM PCB CN1-42		Chip Select Signal
CN107-43	nBCS[3]	SDRM PCB CN1-43		Chip Select Signal
CN107-44	nBCS[4]	SDRM PCB CN1-44		Chip Select Signal

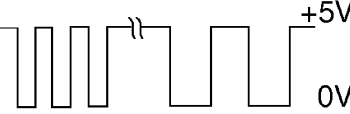


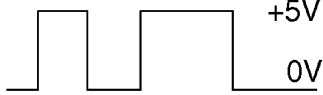
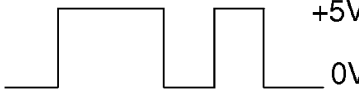
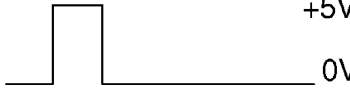

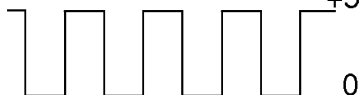
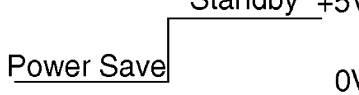
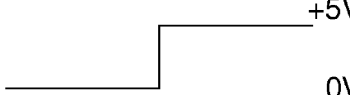
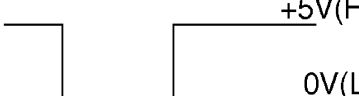
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-45	nBCS[5]	SDRM PCB CN1-45		Chip Select Signal
CN107-46	nBRAS	SDRM PCB CN1-46		S-DRAM Row Address Strobe Command L: Strobe
CN107-47	nBMWT	SDRM PCB CN1-47		S-DRAM Write Enable H: Write Disable L: Write Enable
CN107-48	nBCAS	SDRM PCB CN1-48		S-DRAM Column Address Strobe Command L: Strobe
CN107-49	N.C.	SDRM PCB CN1-49		Not Used
CN107-50	N.C.	SDRM PCB CN1-50		Not Used
CN107-51	N.C.	SDRM PCB CN1-51		Not Used
CN107-52	N.C.	SDRM PCB CN1-52		Not Used
CN107-53	N.C.	SDRM PCB CN1-53		Not Used
CN107-54	N.C.	SDRM PCB CN1-54		Not Used
CN107-55	BDCLK[0]	SDRM PCB CN1-55		S-DRAM Access Clock
CN107-56	N.C.	SDRM PCB CN1-56		Not Used

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN107-57	N.C.	SDRM PCB CN1-57		Not Used
CN107-58	N.C.	SDRM PCB CN1-58		Not Used
CN107-59	N.C.	SDRM PCB CN1-59		Not Used
CN107-60	N.C.	SDRM PCB CN1-60		Not Used
CN107-61	+3.3V	SDRM PCB CN1-61		+3.3 VDC Power Supply
CN107-62	N.C.	SDRM PCB CN1-62		Not Used
CN107-63	N.C.	SDRM PCB CN1-63		Not Used
CN107-64	N.C.	SDRM PCB CN1-64		Not Used
CN107-65	N.C.	SDRM PCB CN1-65		S-DRAM Access Clock
CN107-66	N.C.	SDRM PCB CN1-66		Not Used
CN107-67	nBCKE	SDRM PCB CN1-67		S-DRAM Clock Enable


SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function															
CN107-68	SMEMID[0]	SDRM PCB CN1-68	<div><div>+3.3V(H)</div><div>or</div><div>0V(L)</div></div>	<div>Memory ID</div> <table><tr><td>ID0</td><td>ID1</td><td>ID2</td><td>ID3</td><td></td></tr><tr><td>H</td><td>H</td><td>H</td><td>H</td><td>Not Installed</td></tr><tr><td>L</td><td>H</td><td>H</td><td>L</td><td>16MB</td></tr></table>	ID0	ID1	ID2	ID3		H	H	H	H	Not Installed	L	H	H	L	16MB
ID0	ID1	ID2	ID3																
H	H	H	H		Not Installed														
L	H	H	L		16MB														
CN107-69	SMEMID[1]	SDRM PCB CN1-69	<div><div>+3.3V(H)</div><div>or</div><div>0V(L)</div></div>																
CN107-70	SMEMID[2]	SDRM PCB CN1-70	<div><div>+3.3V(H)</div><div>or</div><div>0V(L)</div></div>																
CN107-71	SMEMID[3]	SDRM PCB CN1-71	<div><div>+3.3V(H)</div><div>or</div><div>0V(L)</div></div>																
CN107-72	GND	SDRM PCB CN1-72	<div><div>0V</div></div>	Ground															

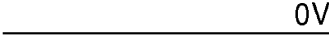
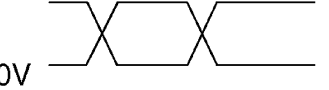
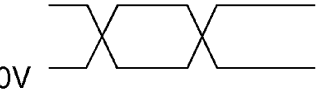
#### CN108

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN108-1	+24V	PNL1 PCB CN65-1	<div> <div>+24V</div> </div>	+24 VDC Power Supply
CN108-2	+5VP	PNL1 PCB CN65-2	<div> <div>+5V</div> </div>	+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN108-3	+5V	PNL1 PCB CN65-3	<div> <div>+5V</div> </div>	+5 VDC Power Supply
CN108-4	GND	PNL1 PCB CN65-4	<div> <div>0V</div> </div>	Ground
CN108-5	GND	PNL1 PCB CN65-5	<div> <div>0V</div> </div>	Ground
CN108-6	PNLCK	PNL1 PCB CN65-6	<div>  </div>	Communication Clock Signal

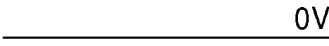
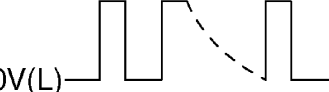
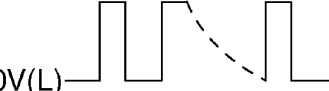
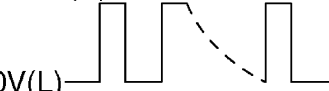
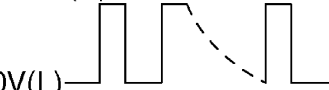
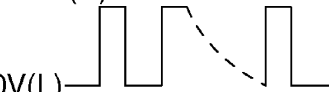
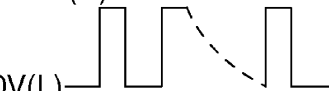
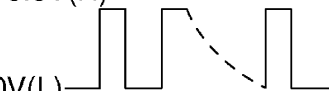
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN108-7	PRXD	PNL1 PCB CN65-7		Reception Signal
CN108-8	PTXD	PNL1 PCB CN65-8		Transmission Signal
CN108-9	nPNLRST	PNL1 PCB CN65-9		Panel Reset Signal H: Reset L: Not Reset
CN108-10	nWAKUP	PNL1 PCB CN65-10		Energy Saver Mode Enable H: Disable L: Enable
CN108-11	BZCLK	PNL1 PCB CN65-11		Buzzer Signal
CN108-12	nPSAVE	PNL1 PCB CN65-12		Energy Saver Mode Transport Signal
CN108-13	BATVL	PNL1 PCB CN65-13	0V ~ +3V	Battery Voltage
CN108-14	nEBZON	PNL1 PCB CN65-14		Buzzer Enable Signal
CN108-15	nSLPKY	PNL1 PCB CN65-15		Sleep Key Signal

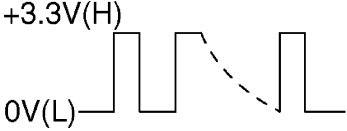

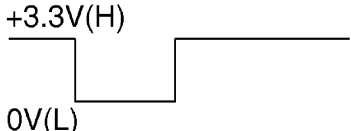
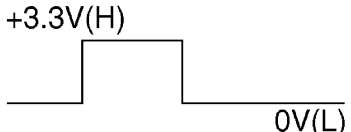
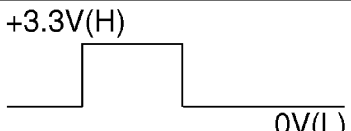
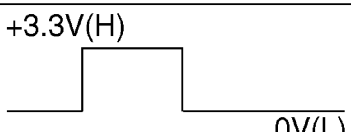
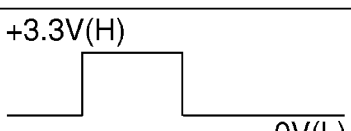
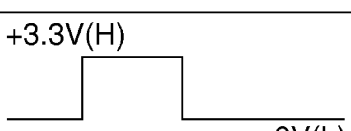
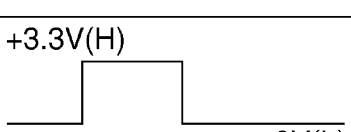
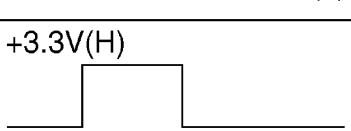
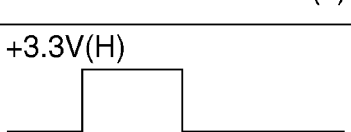
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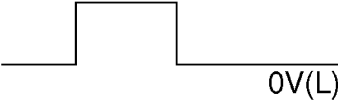
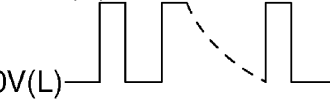
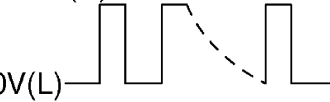
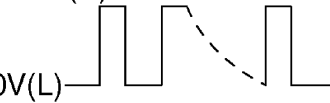
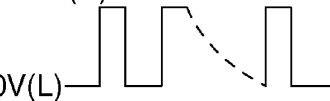
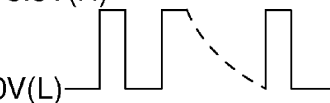
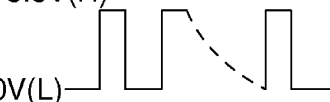
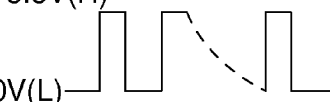
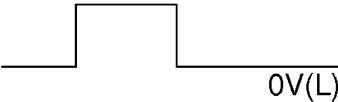
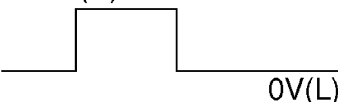
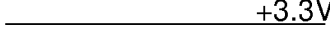
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN110-1	+3.3V	LSU PCB CN1		+3.3 VDC Power Supply

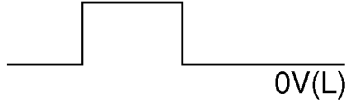



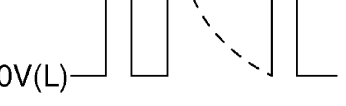
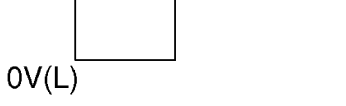
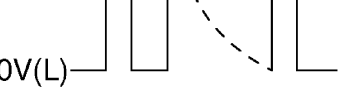
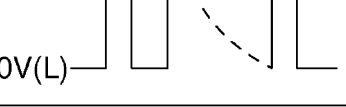
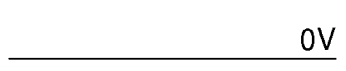
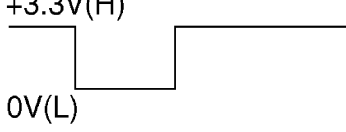
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN110-2	GND	LSU PCB CN1		Ground
CN110-3	+VDO	LSU PCB CN1		Video Signal (LVPS + Output)
CN110-4	-VDO	LSU PCB CN1		Video Signal (LVPS - Output)

### CN113

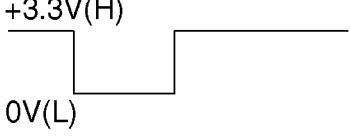
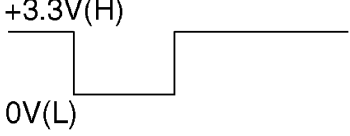
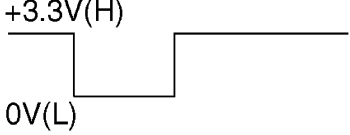
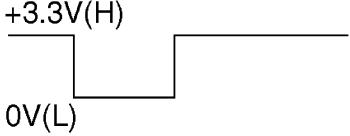
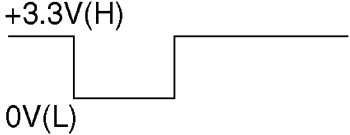
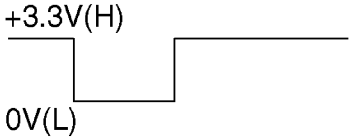
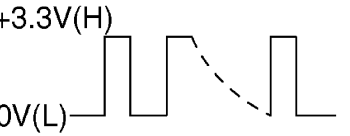
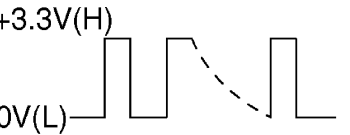
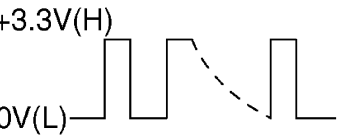
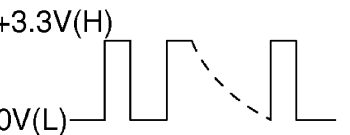
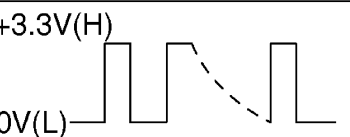
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-1	GND	SDRM PCB CN1-1		Ground
CN113-2	BMD[0]	SDRM PCB CN1-2		Data Signal
CN113-3	BMD[1]	SDRM PCB CN1-3		Data Signal
CN113-4	BMD[2]	SDRM PCB CN1-4		Data Signal
CN113-5	BMD[3]	SDRM PCB CN1-5		Data Signal
CN113-6	BMD[4]	SDRM PCB CN1-6		Data Signal
CN113-7	BMD[5]	SDRM PCB CN1-7		Data Signal
CN113-8	BMD[6]	SDRM PCB CN1-8		Data Signal

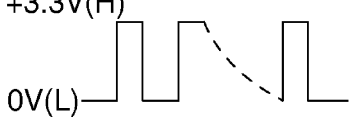
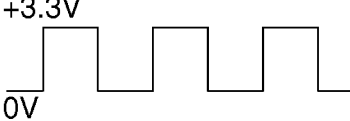
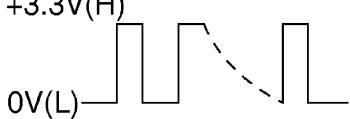
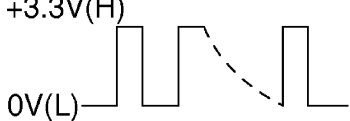
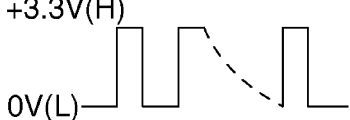
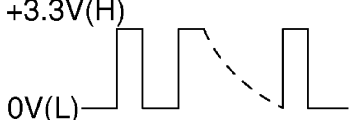
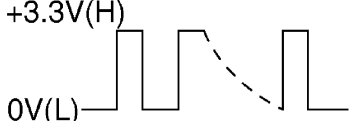

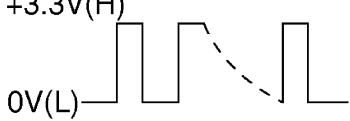
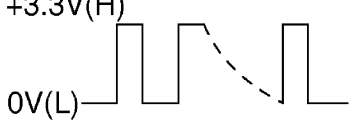
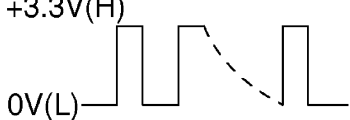
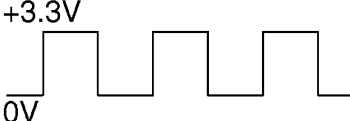
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-9	BMD[7]	SDRM PCB CN1-9		Data Signal
CN113-10	+3.3V	SDRM PCB CN1-10		+3.3 VDC Power Supply
CN113-11	nBDQMH	SDRM PCB CN1-11		Input/Output Mask Signal
CN113-12	BMA[0]	SDRM PCB CN1-12		Address Signal
CN113-13	BMA[1]	SDRM PCB CN1-13		Address Signal
CN113-14	BMA[2]	SDRM PCB CN1-14		Address Signal
CN113-15	BMA[3]	SDRM PCB CN1-15		Address Signal
CN113-16	BMA[4]	SDRM PCB CN1-16		Address Signal
CN113-17	BMA[5]	SDRM PCB CN1-17		Address Signal
CN113-18	BMA[6]	SDRM PCB CN1-18		Address Signal
CN113-19	BMA[10]	SDRM PCB CN1-19		Address Signal

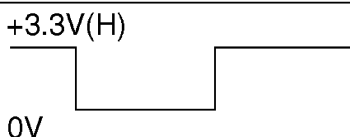
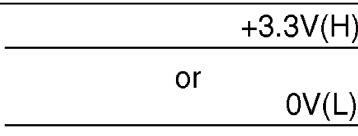
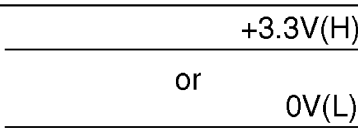
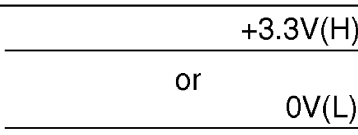
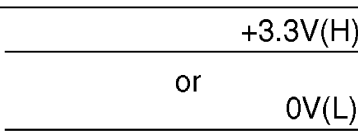

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-20	BMA[11]	SDRM PCB CN1-20		Address Signal
CN113-21	BMD[8]	SDRM PCB CN1-21		Data Signal
CN113-22	BMD[9]	SDRM PCB CN1-22		Data Signal
CN113-23	BMD[10]	SDRM PCB CN1-23		Data Signal
CN113-24	BMD[11]	SDRM PCB CN1-24		Data Signal
CN113-25	BMD[12]	SDRM PCB CN1-25		Data Signal
CN113-26	BMD[13]	SDRM PCB CN1-26		Data Signal
CN113-27	BMD[14]	SDRM PCB CN1-27		Data Signal
CN113-28	BMA[7]	SDRM PCB CN1-28		Address Signal
CN113-29	BMA[12]	SDRM PCB CN1-29		Address Signal
CN113-30	+3.3V	SDRM PCB CN1-30		+3.3 VDC Power Supply

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-31	BMA[8]	SDRM PCB CN1-31		Address Signal
CN113-32	BMA[9]	SDRM PCB CN1-32		Address Signal
CN113-33	BBA[0]	SDRM PCB CN1-33		S-DRAM Memory Area Switching Signal
CN113-34	BBA[1]	SDRM PCB CN1-34		S-DRAM Memory Area Switching Signal
CN113-35	BMD[15]	SDRM PCB CN1-35		Data Signal
CN113-36	nBDQML	SDRM PCB CN1-36		Input/Output Mask Signal
CN113-37	BMD[16]	SDRM PCB CN1-37		Data Signal
CN113-38	BMD[17]	SDRM PCB CN1-38		Data Signal
CN113-39	GND	SDRM PCB CN1-39		Ground
CN113-40	N.C.	SDRM PCB CN1-40		Not Used
CN113-41	N.C.	SDRM PCB CN1-41		Not Used
CN113-42	nBCS[2]	SDRM PCB CN1-42		Chip Select Signal


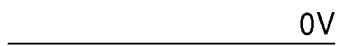
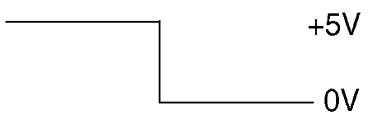


SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-43	BCS[3]	SDRM PCB CN1-43		Chip Select Signal
CN113-44	BCS[4]	SDRM PCB CN1-44		Chip Select Signal
CN113-45	BCS[5]	SDRM PCB CN1-45		Chip Select Signal
CN113-46	nBRAS	SDRM PCB CN1-46		S-DRAM Row Address Strobe Command
CN113-47	nBMWT	SDRM PCB CN1-47		S-DRAM Write Enable H: Write Disable L: Write Enable
CN113-48	nBCAS	SDRM PCB CN1-48		S-DRAM Column Address Strobe Command
CN113-49	BMD[18]	SDRM PCB CN1-49		Data Signal
CN113-50	BMD[19]	SDRM PCB CN1-50		Data Signal
CN113-51	BMD[20]	SDRM PCB CN1-51		Data Signal
CN113-52	BMD[21]	SDRM PCB CN1-52		Data Signal
CN113-53	BMD[22]	SDRM PCB CN1-53		Data Signal



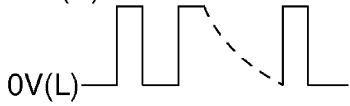



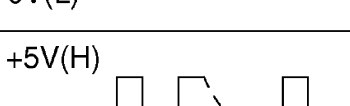


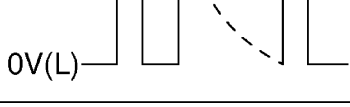
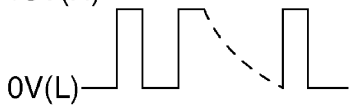
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-54	BMD[23]	SDRM PCB CN1-54		Data Signal
CN113-55	BDCLK[0]	SDRM PCB CN1-55		S-DRAM Access Clock
CN113-56	BMD[24]	SDRM PCB CN1-56		Data Signal
CN113-57	BMD[25]	SDRM PCB CN1-57		Data Signal
CN113-58	BMD[26]	SDRM PCB CN1-58		Data Signal
CN113-59	BMD[27]	SDRM PCB CN1-59		Data Signal
CN113-60	BMD[28]	SDRM PCB CN1-60		Data Signal
CN113-61	+3.3V	SDRM PCB CN1-61		+3.3 VDC Power Supply
CN113-62	BMD[29]	SDRM PCB CN1-62		Data Signal
CN113-63	BMD[30]	SDRM PCB CN1-63		Data Signal
CN113-64	BMD[31]	SDRM PCB CN1-64		Data Signal
CN113-65	BDCLK[1]	SDRM PCB CN1-65		S-DRAM Access Clock

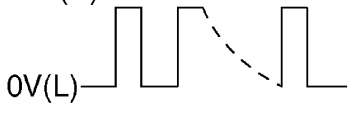

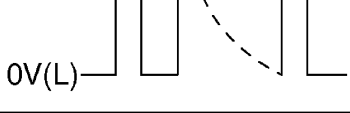
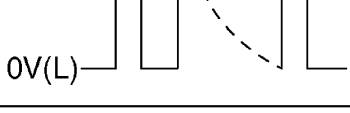
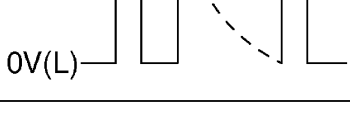


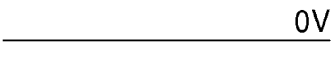


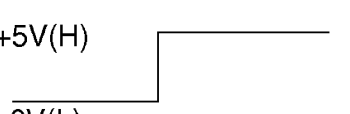
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function																									
CN113-66	N.C.	SDRM PCB CN1-66		Not Used																									
CN113-67	nBCKE	SDRM PCB CN1-67		S-DRAM Clock Enable																									
CN113-68	SMEMID[0]	SDRM PCB CN1-68		<div>Memory ID</div> <table><tr><td>ID0</td><td>ID1</td><td>ID2</td><td>ID3</td><td></td></tr><tr><td>H</td><td>H</td><td>H</td><td>H</td><td>Not Installed</td></tr><tr><td>L</td><td>H</td><td>H</td><td>H</td><td>8MB</td></tr><tr><td>L</td><td>H</td><td>H</td><td>L</td><td>16MB</td></tr><tr><td>L</td><td>H</td><td>L</td><td>H</td><td>128MB</td></tr></table>	ID0	ID1	ID2	ID3		H	H	H	H	Not Installed	L	H	H	H	8MB	L	H	H	L	16MB	L	H	L	H	128MB
ID0	ID1	ID2	ID3																										
H	H	H	H		Not Installed																								
L	H	H	H		8MB																								
L	H	H	L		16MB																								
L	H	L	H	128MB																									
CN113-69	SMEMID[1]	SDRM PCB CN1-69																											
CN113-70	SMEMID[2]	SDRM PCB CN1-70																											
CN113-71	SMEMID[3]	SDRM PCB CN1-71																											
CN113-72	GND	SDRM PCB CN1-72		Ground																									


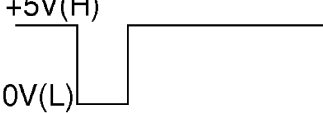
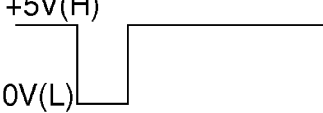
#### CN114

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN114-1	+24V	Fan		+24 VDC Power Supply
CN114-2	MGND	Fan		Ground
CN114-3	N.C.	Fan		Not Used
CN114-4	nFNRTD	Fan		Fan Ready Signal H: Not Ready L: Ready


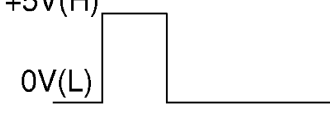

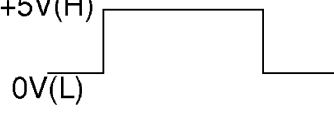
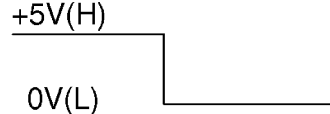
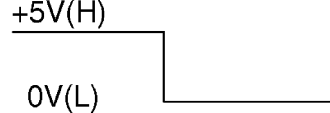
**CN115**


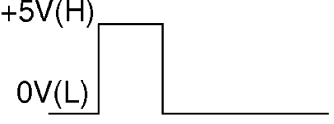
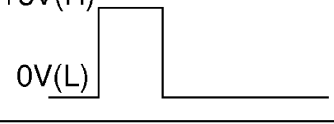
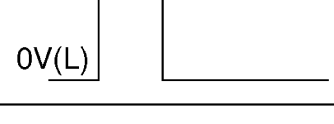
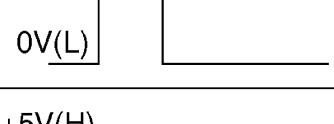
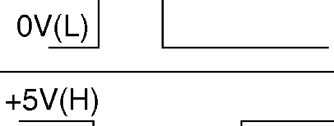
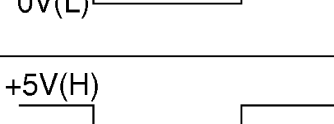
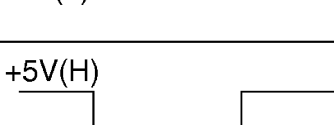



SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN115-1	+5VI	PRIF PCB CN212-1	 +5V	+5 VDC Power Supply
CN115-2	+5VI	PRIF PCB CN212-2	 +5V	+5 VDC Power Supply
CN115-3	IOD[0]	PRIF PCB CN212-3		Data Signal
CN115-4	IOD[1]	PRIF PCB CN212-4		Data Signal
CN115-5	IOD[2]	PRIF PCB CN212-5		Data Signal
CN115-6	IOD[3]	PRIF PCB CN212-6		Data Signal
CN115-7	IOD[4]	PRIF PCB CN212-7		Data Signal
CN115-8	IOD[5]	PRIF PCB CN212-8		Data Signal
CN115-9	IOD[6]	PRIF PCB CN212-9		Data Signal
CN115-10	IOD[7]	PRIF PCB CN212-10		Data Signal
CN115-11	IOD[8]	PRIF PCB CN212-11		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN115-12	IOD[9]	PRIF PCB CN212-12		Data Signal
CN115-13	IOD[10]	PRIF PCB CN212-13		Data Signal
CN115-14	IOD[11]	PRIF PCB CN212-14		Data Signal
CN115-15	IOD[12]	PRIF PCB CN212-15		Data Signal
CN115-16	IOD[13]	PRIF PCB CN212-16		Data Signal
CN115-17	IOD[14]	PRIF PCB CN212-17		Data Signal
CN115-18	IOD[15]	PRIF PCB CN212-18		Data Signal
CN115-19	GND	PRIF PCB CN212-19		Ground
CN115-20	GND	PRIF PCB CN212-20		Ground
CN115-21	nDRAKS	PRIF PCB CN212-21		DMA Accept Signal H: Enable L: Disable
CN115-22	pDREQSEN	PRIF PCB CN212-22		PRIF DMA Switching Signal H: Reception L: Transmission

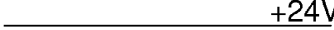
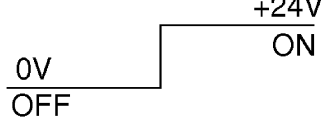
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN115-23	+5VP	PRIF PCB CN212-23		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN115-24	nWAKUPPC	PRIF PCB CN212-24		Energy Saver Mode Reset Signal H: Not Reset L: Reset
CN115-25	nRST5V	PRIF PCB CN212-25		Reset Signal H: Not Reset L: Reset

#### CN116


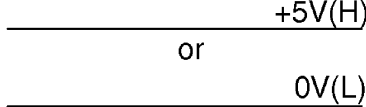
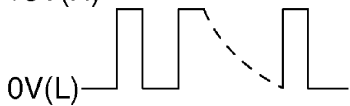
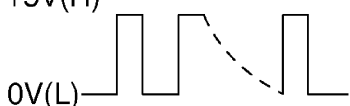
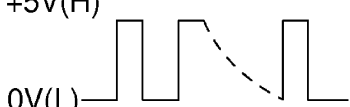
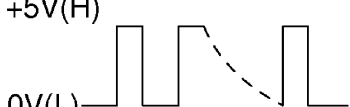

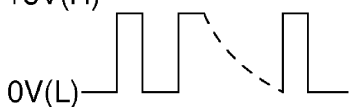
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN116-1	GND	PRIF PCB CN211-1		Ground
CN116-2	pPRIIRST	PRIF PCB CN211-2		Printer Reset Signal
CN116-3	nDRAKR	PRIF PCB CN211-3		Direct Memory Accept Signal H: Disable L: Enable
CN116-4	pDREQRIS	PRIF PCB CN211-4		Direct Memory Accept Data Request Signal H: Enable L: Disable
CN116-5	N.C.	PRIF PCB CN211-5		Not Used
CN116-6	nIRQBS0	PRIF PCB CN211-6		Printer Interrupt Signal
CN116-7	nIRQBS1	PRIF PCB CN211-7		Printer Interrupt Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN116-8	nSENT	PRIF PCB CN211-8		PRIF PCB Detection Signal H: PRIF PCB Installed L: PRIF PCB Installed
CN116-9	AL[1]	PRIF PCB CN211-9		Address Signal
CN116-10	AL[2]	PRIF PCB CN211-10		Address Signal
CN116-11	AL[3]	PRIF PCB CN211-11		Address Signal
CN116-12	AL[4]	PRIF PCB CN211-12		Address Signal
CN116-13	AL[5]	PRIF PCB CN211-13		Address Signal
CN116-14	nCS0D	PRIF PCB CN211-14		Chip Enable Signal H: Disable L: Enable
CN116-15	nIORD	PRIF PCB CN211-15		I/O Read Signal H: Read Disable L: Read Enable
CN116-16	nIOWRL	PRIF PCB CN211-16		I/O Write (Low) Signal H: Write Disable L: Write Enable
CN116-17	nIOWRH	PRIF PCB CN211-17		I/O Write (High) Signal H: Write Disable L: Write Enable
CN116-18	GND	PRIF PCB CN211-18		Ground

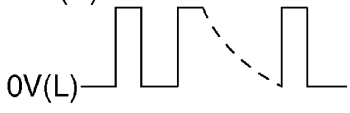
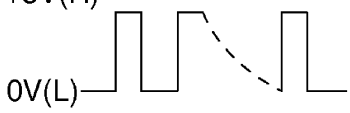
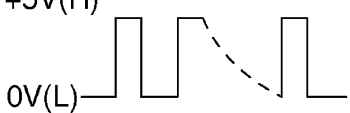
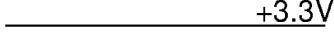





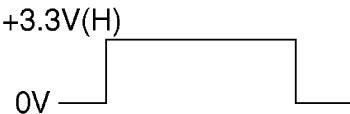
## CN118



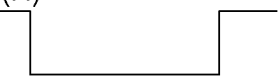



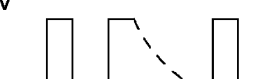
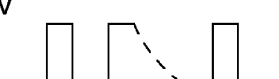
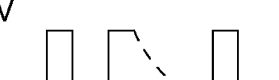
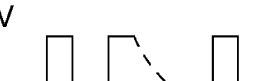
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN118-1	+24V	RLB PCB (Heater) CN175-2		+24 VDC Power Supply
CN118-2	HITON	RLB PCB (Heater) CN175-1		Dehumidifier Heater Control Signal

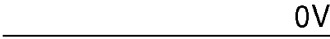
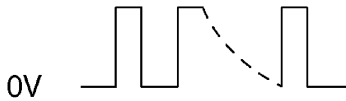
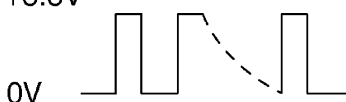
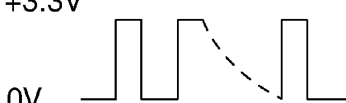
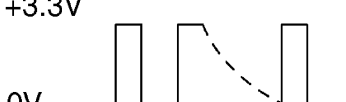
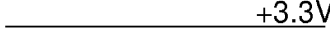
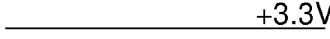
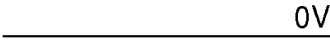

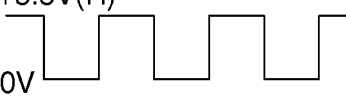
## CN120


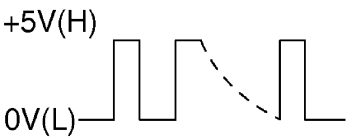
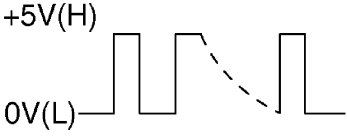
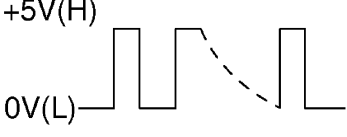
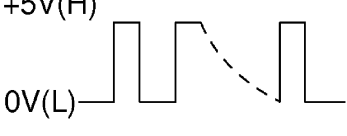
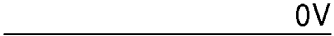
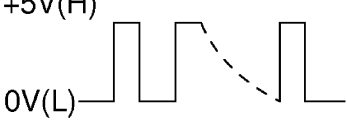
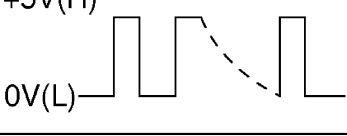
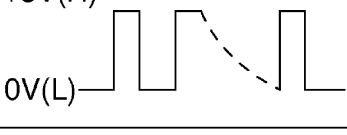
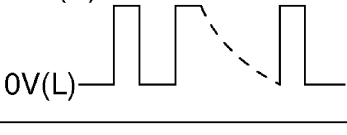
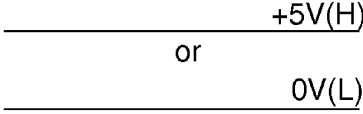
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-1	GND	SORT PCB CN150-1		Ground
CN120-2	nSOROPT	SORT PCB CN150-2		Print Speed Signal H: 25 PPM L: 20PPM
CN120-3	IOD[0]	SORT PCB CN150-3		Data Signal
CN120-4	IOD[1]	SORT PCB CN150-4		Data Signal
CN120-5	IOD[2]	SORT PCB CN150-5		Data Signal
CN120-6	IOD[3]	SORT PCB CN150-6		Data Signal
CN120-7	GND	SORT PCB CN150-7		Ground
CN120-8	IOD[4]	SORT PCB CN150-8		Data Signal

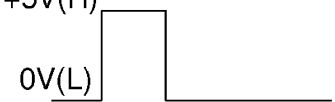
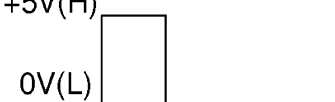

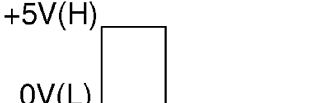
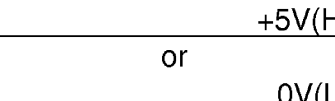
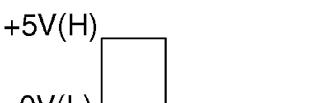
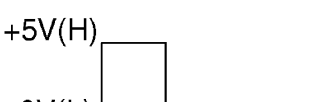


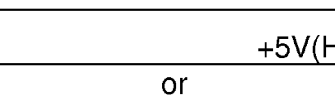
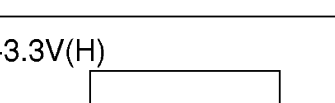


SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-9	IOD[5]	SORT PCB CN150-9		Data Signal
CN120-10	IOD[6]	SORT PCB CN150-10		Data Signal
CN120-11	IOD[7]	SORT PCB CN150-11		Data Signal
CN120-12	ARDY	SORT PCB CN150-12		Not Used
CN120-13	IORD	SORT PCB CN150-13		I/O Read Signal H: Read Disable L: Read Enable
CN120-14	IOWR	SORT PCB CN150-14		I/O Write Signal H: Write Disable L: Write Enable
CN120-15	nWAIT[4]	SORT PCB CN150-15		BUS Wait Signal
CN120-16	nCS05	SORT PCB CN150-16		Chip Select Signal
CN120-17	nCS02	SORT PCB CN150-17		Chip Select Signal
CN120-18	AAD0	SORT PCB CN150-18		Not Used
CN120-19	pIODREQ[6]	SORT PCB CN150-19		Direct Memory Access Data Request Signal H: Request

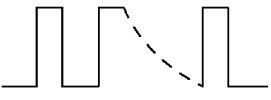
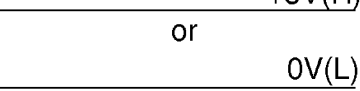
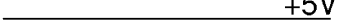
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-20	pIODREQ[7]	SORT PCB CN150-20	+3.3V(H) 0V 	Direct Memory Access Data Request Signal H: Request
CN120-21	nIODACK[6]	SORT PCB CN150-21	+5V(H) 0V 	Direct Memory Access Data Receive Signal L: Receive
CN120-22	nIODACK[7]	SORT PCB CN150-22	+5V(H) 0V 	Direct Memory Access Data Receive Signal L: Receive
CN120-23	nMIRQPM	SORT PCB CN150-23	+5V(H) 0V 	Interrupt Request Signal H: Disable L: Enable
CN120-24	nMIRQBG	SORT PCB CN150-24	+5V(H) 0V 	Interrupt Request Signal H: Disable L: Enable
CN120-25	nIORST3V	SORT PCB CN150-25	+3.3V 0V 	Reset Signal H: Not Reset L: Reset
CN120-26	AAD1	SORT PCB CN150-26		Not Used
CN120-27	BID[8]	SORT PCB CN150-27	+3.3V 0V 	Image -BUS
CN120-28	BID[9]	SORT PCB CN150-28	+3.3V 0V 	Image -BUS
CN120-29	BID[10]	SORT PCB CN150-29	+3.3V 0V 	Image -BUS
CN120-30	BID[11]	SORT PCB CN150-30	+3.3V 0V 	Image -BUS

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-31	GND	SORT PCB CN150-31		Ground
CN120-32	BID[12]	SORT PCB CN150-32		Image -BUS
CN120-33	BID[13]	SORT PCB CN150-33		Image -BUS
CN120-34	BID[14]	SORT PCB CN150-34		Image -BUS
CN120-35	BID[15]	SORT PCB CN150-35		Image -BUS
CN120-36	AAD2	SORT PCB CN150-36		Not Used
CN120-37	+3.3V	SORT PCB CN150-37		+3.3 VDC Power Supply
CN120-38	+3.3V	SORT PCB CN150-38		+3.3 VDC Power Supply
CN120-39	GND	SORT PCB CN150-39		Ground
CN120-40	GND	SORT PCB CN150-40		Ground
CN120-41	nATARST	SORT PCB CN150-41		Not Used
CN120-42	BRICKL	SORT PCB CN150-42		Electronic Sorting Board Clock Signal

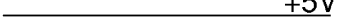


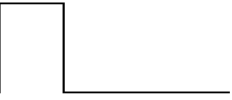


SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-43	AIRQ	SORT PCB CN150-43		Not Used
CN120-44	IOD[8]	SORT PCB CN150-44		Data Signal
CN120-45	IOD[9]	SORT PCB CN150-45		Data Signal
CN120-46	IOD[10]	SORT PCB CN150-46		Data Signal
CN120-47	IOD[11]	SORT PCB CN150-47		Data Signal
CN120-48	GND	SORT PCB CN150-48		Ground
CN120-49	IOD[12]	SORT PCB CN150-49		Data Signal
CN120-50	IOD[13]	SORT PCB CN150-50		Data Signal
CN120-51	IOD[14]	SORT PCB CN150-51		Data Signal
CN120-52	IOD[15]	SORT PCB CN150-52		Data Signal
CN120-53	SMEMID[0]	SORT PCB CN150-53		Memory ID

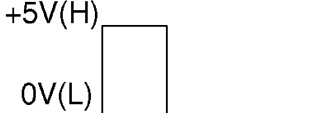
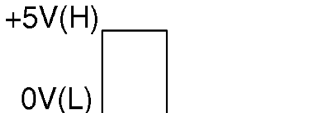
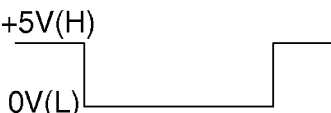
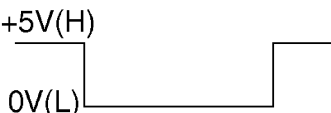



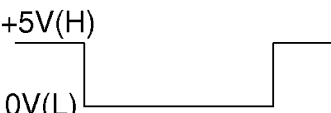

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-54	AL[1]	SORT PCB CN150-54		Address Signal
CN120-55	AL[2]	SORT PCB CN150-55		Address Signal
CN120-56	AL[3]	SORT PCB CN150-56		Address Signal
CN120-57	AL[4]	SORT PCB CN150-57		Address Signal
CN120-58	SMEMID[1]	SORT PCB CN150-58		Memory ID
CN120-59	AL[5]	SORT PCB CN150-59		Address Signal
CN120-60	AL[6]	SORT PCB CN150-60		Address Signal
CN120-61	AL[7]	SORT PCB CN150-61		Address Signal
CN120-62	AL[8]	SORT PCB CN150-62		Address Signal
CN120-63	nSORDET	SORT PCB CN150-63		Sort Option Detection Signal H: Option Not Installed L: Option Installed
CN120-64	pBREQ	SORT PCB CN150-64		Direct Memory Access Data Request Signal H: Enable L: Disable

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-65	nSBACK	SORT PCB CN150-65	<p>+3.3V(H) 0V(L)</p>	Direct Memory Access BUS Receive Signal H: Disable L: Enable
CN120-66	nSDACK	SORT PCB CN150-66	<p>+3.3V(H) 0V(L)</p>	Direct Memory Access Data Receive Signal H: Disable L: Enable
CN120-67	SMEMID[3]	SORT PCB CN150-67	<p>+5V(H) or 0V(L)</p>	Memory ID
CN120-68	BID[0]	SORT PCB CN150-68	<p>+3.3V 0V</p>	Image -BUS
CN120-69	BID[1]	SORT PCB CN150-69	<p>+3.3V 0V</p>	Image -BUS
CN120-70	BID[2]	SORT PCB CN150-70	<p>+3.3V 0V</p>	Image -BUS
CN120-71	BID[3]	SORT PCB CN150-71	<p>+3.3V 0V</p>	Image -BUS
CN120-72	SMEMID[2]	SORT PCB CN150-72	<p>+5V(H) or 0V(L)</p>	Memory ID
CN120-73	BID[4]	SORT PCB CN150-73	<p>+3.3V 0V</p>	Image -BUS
CN120-74	BID[5]	SORT PCB CN150-74	<p>+3.3V 0V</p>	Image -BUS
CN120-75	BID[6]	SORT PCB CN150-75	<p>+3.3V 0V</p>	Image -BUS

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-76	BID[7]	SORT PCB CN150-76	+3.3V 0V 	Image -BUS
CN120-77	N.C.	SORT PCB CN150-77		Not Used
CN120-78	N.C.	SORT PCB CN150-78		Not Used
CN120-79	n8P16M	SORT PCB CN150-79	+5V(H) or 0V(L) 	Sort Memory Capacity Signal H: 16MB L: 8MB
CN120-80	+5V	SORT PCB CN150-80	+5V 	+5 VDC Power Supply

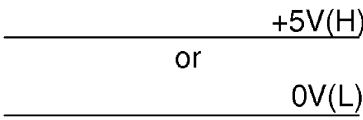
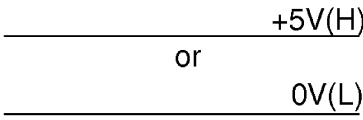



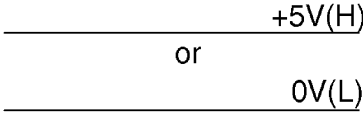
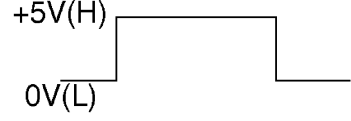
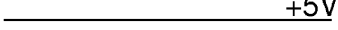
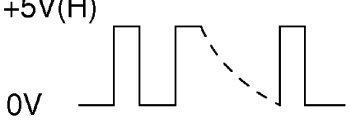
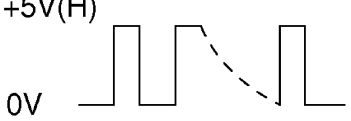
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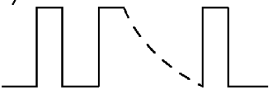
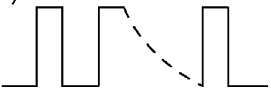

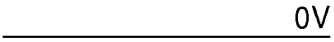
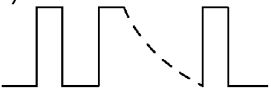
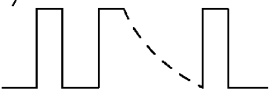
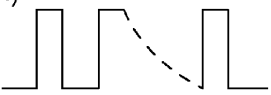
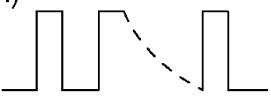

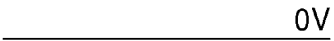
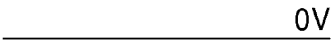
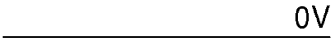
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-1	+5VI	EP PCB CN1-1	+5V 	+5 VDC Power Supply
CN121-2	+5VI	EP PCB CN1-2	+5V 	+5 VDC Power Supply
CN121-3	AL[1]	EP PCB CN1-3	+5V(H) 0V(L) 	Address Signal
CN121-4	AL[2]	EP PCB CN1-4	+5V(H) 0V(L) 	Address Signal
CN121-5	AL[5]	EP PCB CN1-5	+5V(H) 0V(L) 	Address Signal
CN121-6	AL[6]	EP PCB CN1-6	+5V(H) 0V(L) 	Address Signal

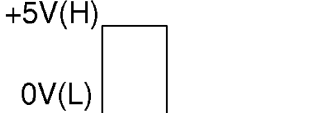
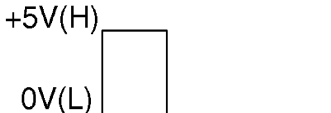
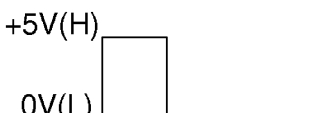
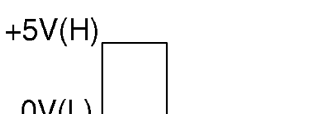
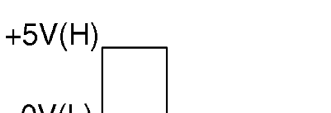

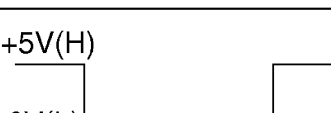

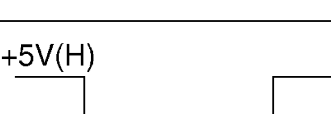
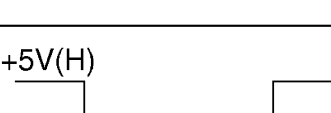

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-7	AL[9]	EP PCB CN1-7		Address Signal
CN121-8	AL[10]	EP PCB CN1-8		Address Signal
CN121-9	nWAIT[5]	EP PCB CN1-9		BUS Wait Signal
CN121-10	N.C.	EP PCB CN1-10		Not Used
CN121-11	nCS08	EP PCB CN1-11		Chip Enable Signal H: Disable L: Enable
CN121-12	nCS0E	EP PCB CN1-12		Chip Enable Signal H: Disable L: Enable
CN121-13	nIOWRH	EP PCB CN1-13		I/O Write (High) Signal H: Write Disable L: Write Enable
CN121-14	GND	EP PCB CN1-14		Ground
CN121-15	nIRQOP1	EP PCB CN1-15		Interrupt Signal
CN121-16	nIRQOP2	EP PCB CN1-16		Interrupt Signal
CN121-17	N.C.	EP PCB CN1-17		Not Used


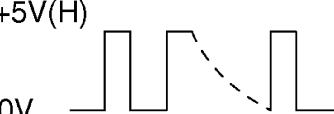
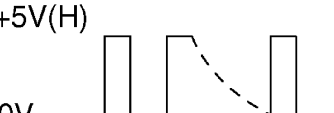
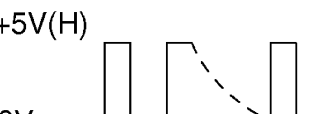
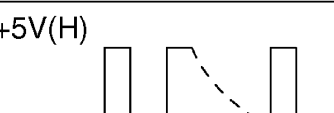
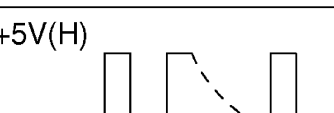
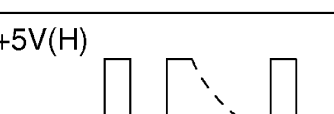




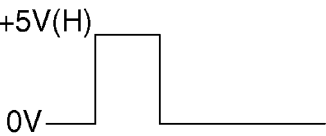
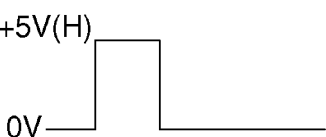
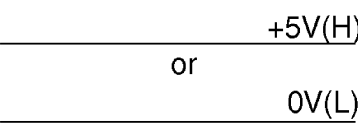
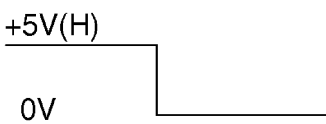
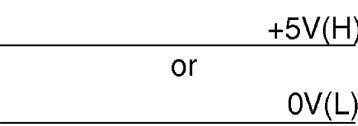
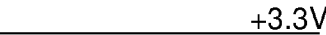




SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-18	pOP1RST	EP PCB CN1-18		Reset Signal H: Reset L: Not Reset
CN121-19	IOD[0]	EP PCB CN1-19		Data Signal
CN121-20	IOD[1]	EP PCB CN1-20		Data Signal
CN121-21	IOD[4]	EP PCB CN1-21		Data Signal
CN121-22	IOD[5]	EP PCB CN1-22		Data Signal
CN121-23	IOD[8]	EP PCB CN1-23		Data Signal
CN121-24	IOD[9]	EP PCB CN1-24		Data Signal
CN121-25	IOD[12]	EP PCB CN1-25		Data Signal
CN121-26	IOD[13]	EP PCB CN1-26		Data Signal
CN121-27	nWAIT[2]	EP PCB CN1-27		BUS Wait Signal
CN121-28	nWAIT[3]	EP PCB CN1-28		BUS Wait Signal

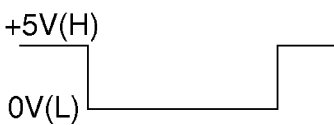
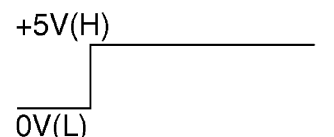
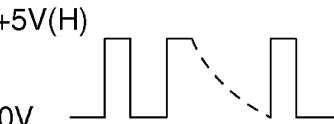
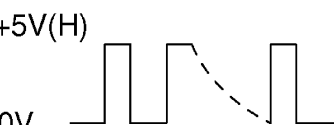
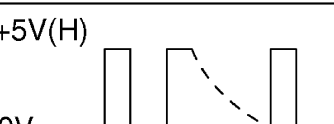
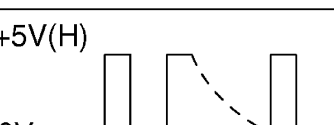
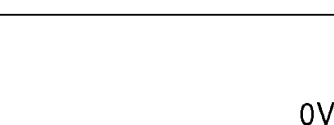
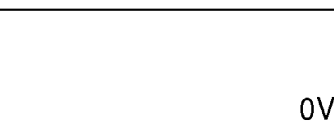
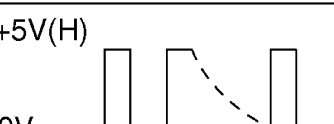
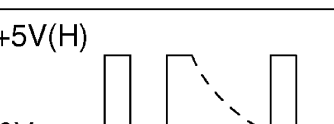
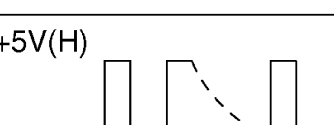
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-29	nOPB1	EP PCB CN1-29		Option Detection Signal H: Option Not Installed L: Option Installed
CN121-30	nOPB2	EP PCB CN1-30		Option Detection Signal H: Option Not Installed L: Option Installed
CN121-31	N.C.	EP PCB CN1-31		Not Used
CN121-32	N.C.	EP PCB CN1-32		Not Used
CN121-33	+5VP	EP PCB CN1-33		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN121-34	+24VF	EP PCB CN1-34		+24 VDC Power Supply
CN121-35	+24VF	EP PCB CN1-35		+24 VDC Power Supply
CN121-36	nPDLOPT	EP PCB CN1-36		Option Detection Signal H: Option Not Installed L: Option Installed
CN121-37	pPDLREQ	EP PCB CN1-37		Direct Memory Access Data Request Signal H: Enable L: Disable
CN121-38	+5V	EP PCB CN1-38		+5 VDC Power Supply
CN121-39	PD[0]	EP PCB CN1-39		Data Signal
CN121-40	PD[1]	EP PCB CN1-40		Data Signal

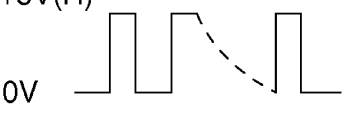
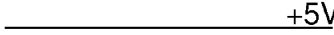

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-41	PD[4]	EP PCB CN1-41	+5V(H) 0V 	Data Signal
CN121-42	PD[5]	EP PCB CN1-42	+5V(H) 0V 	Data Signal
CN121-43	GND	EP PCB CN1-43	 0V	Ground
CN121-44	GND	EP PCB CN1-44	 0V	Ground
CN121-45	PD[8]	EP PCB CN1-45	+5V(H) 0V 	Data Signal
CN121-46	PD[9]	EP PCB CN1-46	+5V(H) 0V 	Data Signal
CN121-47	PD[12]	EP PCB CN1-47	+5V(H) 0V 	Data Signal
CN121-48	PD[13]	EP PCB CN1-48	+5V(H) 0V 	Data Signal
CN121-49	GND	EP PCB CN1-49	 0V	Ground
CN121-50	GND	EP PCB CN1-50	 0V	Ground
CN121-51	GND	EP PCB CN1-51	 0V	Ground
CN121-52	GND	EP PCB CN1-52	 0V	Ground

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-53	AL[3]	EP PCB CN1-53		Address Signal
CN121-54	AL[4]	EP PCB CN1-54		Address Signal
CN121-55	AL[7]	EP PCB CN1-55		Address Signal
CN121-56	AL[8]	EP PCB CN1-56		Address Signal
CN121-57	AL[11]	EP PCB CN1-57		Address Signal
CN121-58	AL[12]	EP PCB CN1-58		Address Signal
CN121-59	nCS09	EP PCB CN1-59		Chip Enable Signal H: Disable L: Enable
CN121-60	nCS0A	EP PCB CN1-60		Chip Enable Signal H: Disable L: Enable
CN121-61	nIORD	EP PCB CN1-61		I/O Read Signal H: Read Disable L: Read Enable
CN121-62	nIOWRL	EP PCB CN1-62		I/O Write (Low) Signal H: Write Disable L: Write Enable
CN121-63	nWAIT[1]	EP PCB CN1-63		BUS Wait Signal

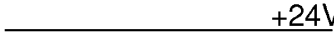



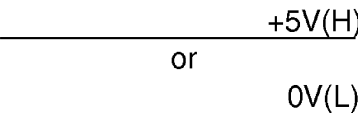
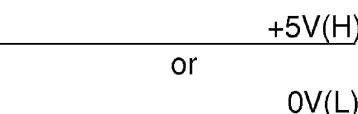
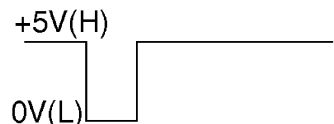
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-64	N.C.	EP PCB CN1-64		Not Used
CN121-65	N.C.	EP PCB CN1-65		Not Used
CN121-66	nMIRQPDL	EP PCB CN1-66		Interrupt Request Signal H: Disable L: Enable
CN121-67	IOD[2]	EP PCB CN1-67		Data Signal
CN121-68	IOD[3]	EP PCB CN1-68		Data Signal
CN121-69	IOD[6]	EP PCB CN1-69		Data Signal
CN121-70	IOD[7]	EP PCB CN1-70		Data Signal
CN121-71	IOD[10]	EP PCB CN1-71		Data Signal
CN121-72	IOD[11]	EP PCB CN1-72		Data Signal
CN121-73	IOD[14]	EP PCB CN1-73		Data Signal
CN121-74	IOD[15]	EP PCB CN1-74		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-75	pOP2RST	EP PCB CN1-75		Reset Signal H: Reset L: Not Reset
CN121-76	pOP3RST	EP PCB CN1-76		Reset Signal H: Reset L: Not Reset
CN121-77	nOPB3	EP PCB CN1-77		Option Detection Signal H: Option Not Installed L: Option Installed
CN121-78	N.C.	EP PCB CN1-78		Not Used
CN121-79	nPSDES	EP PCB CN1-79		Energy Saver Mode Disable Signal
CN121-80	N.C.	EP PCB CN1-80		Not Used
CN121-81	nOPON	EP PCB CN1-81		Option Detection Signal H: Option Not Installed L: Option Installed
CN121-82	+3.3V	EP PCB CN1-82		+3.3 VDC Power Supply
CN121-83	-12V	EP PCB CN1-83		-12 VDC Power Supply
CN121-84	GND	EP PCB CN1-84		Ground
CN121-85	GND	EP PCB CN1-85		Ground
CN121-86	GND	EP PCB CN1-86		Ground

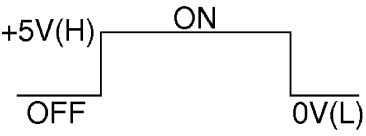
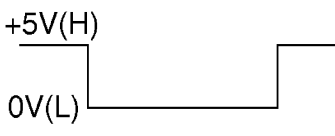


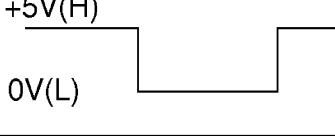
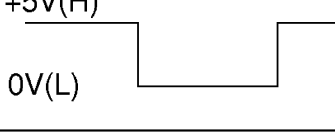
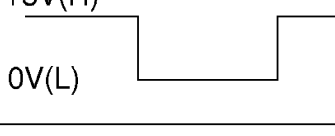
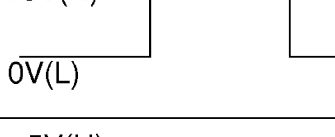
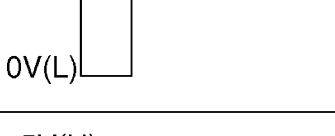
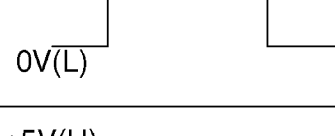
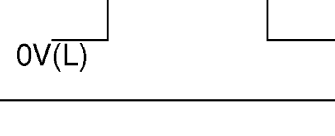
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-87	n5VPDLRD	EP PCB CN1-87		Read Signal
CN121-88	nPDLRST	EP PCB CN1-88		Reset Signal H: Not Reset L: Reset
CN121-89	PD[2]	EP PCB CN1-89		Data Signal
CN121-90	PD[3]	EP PCB CN1-90		Data Signal
CN121-91	PD[6]	EP PCB CN1-91		Data Signal
CN121-92	PD[7]	EP PCB CN1-92		Data Signal
CN121-93	GND	EP PCB CN1-93		Ground
CN121-94	GND	EP PCB CN1-94		Ground
CN121-95	PD[10]	EP PCB CN1-95		Data Signal
CN121-96	PD[11]	EP PCB CN1-96		Data Signal
CN121-97	PD[14]	EP PCB CN1-97		Data Signal



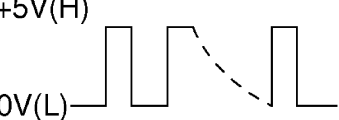
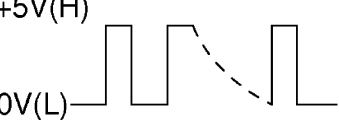
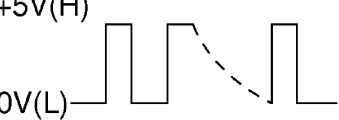
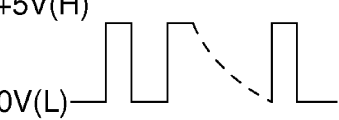
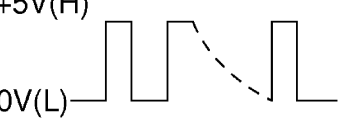
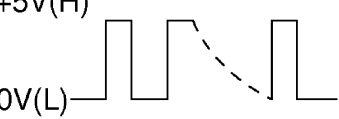
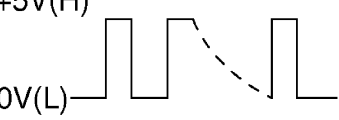
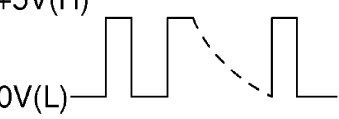
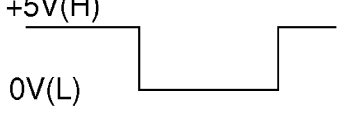
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-98	PD[15]	EP PCB CN1-98		Data Signal
CN121-99	+5V	EP PCB CN1-99		+5 VDC Power Supply
CN121-100	+5V	EP PCB CN1-100		+5 VDC Power Supply

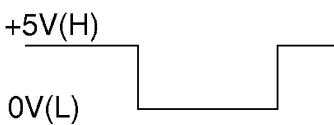
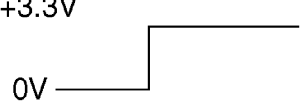
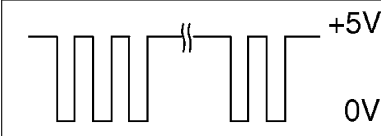
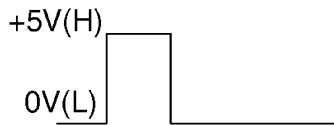
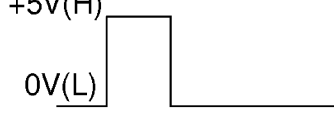
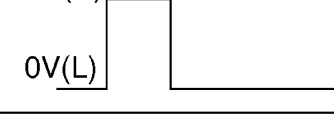
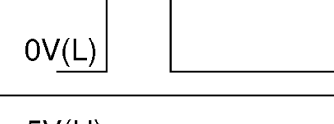
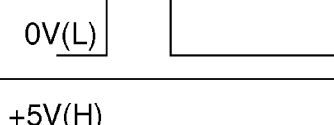
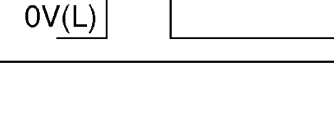
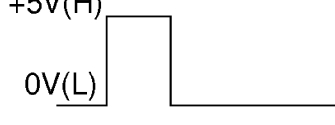
## CN122

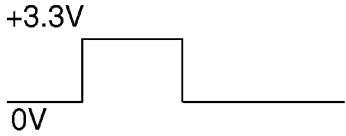
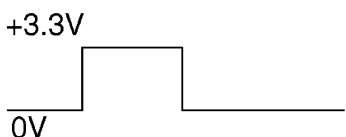
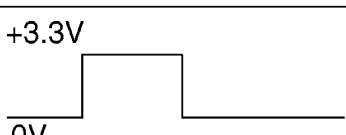
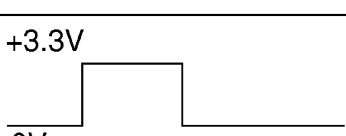
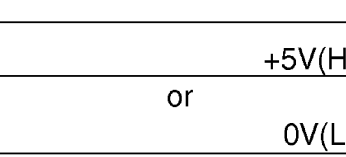
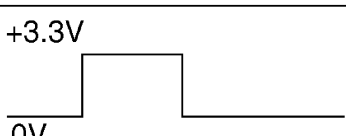
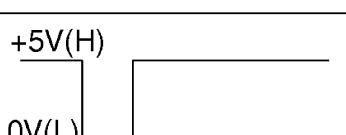
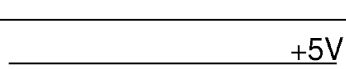

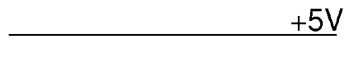
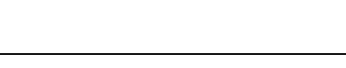
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-1	+24V	FXB PCB CN160-1		+24 VDC Power Supply
CN122-2	+24V	FXB PCB CN160-2		+24 VDC Power Supply
CN122-3	MGND	FXB PCB CN160-3		Ground
CN122-4	MGND	FXB PCB CN160-4		Ground
CN122-5	pMONSW	FXB PCB CN160-5		Monitor SW
CN122-6	nSPON	FXB PCB CN160-6		Speaker SW
CN122-7	nRST5V	FXB PCB CN160-7		Reset Signal H: Not Reset L: Reset
CN122-8	nCTON2	FXB PCB CN160-8	<p>H: Standby Mode L: Ringing</p>	Ring Detection Signal

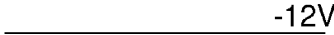



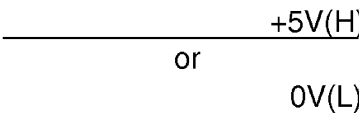
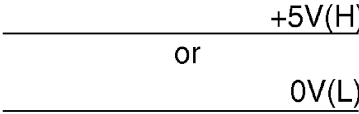
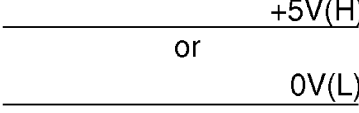
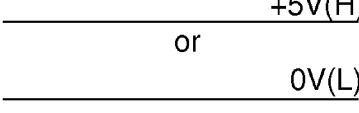
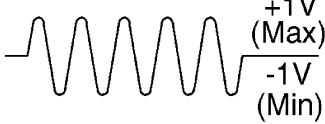
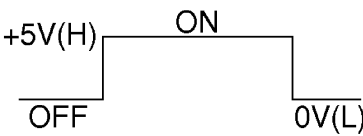


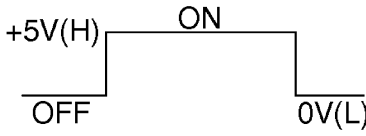
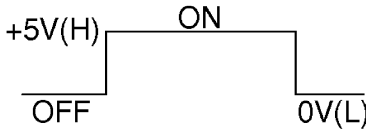
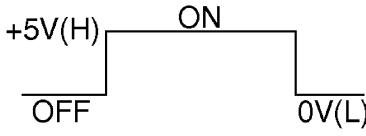

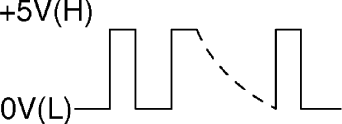
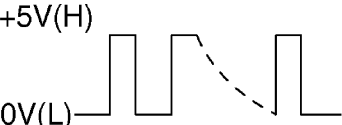
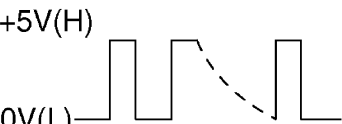
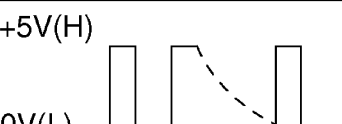
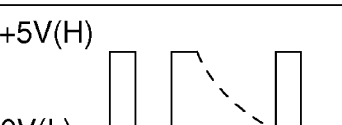
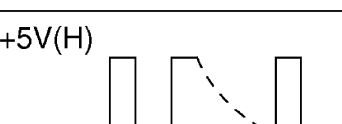
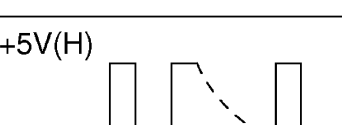
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-9	pCMLD	FXB PCB CN160-9		Line Switching Relay Drive Signal
CN122-10	nHKOF2	FXB PCB CN160-10		Hook Detection Signal L: Detect
CN122-11	nHSDT	FXB PCB CN160-11		Handset Off-Hook Detection Signal L: Detect
CN122-12	nHKOF	FXB PCB CN160-12		External Phone Off-Hook Detection Signal
CN122-13	nCS03	FXB PCB CN160-13		Chip Select Signal
CN122-14	nIORD	FXB PCB CN160-14		I/O Read Signal H: Read Disable L: Read Enable
CN122-15	nIOWR	FXB PCB CN160-15		I/O Write Signal H: Write Disable L: Write Enable
CN122-16	pMIRQCD0	FXB PCB CN160-16		Interrupt Request Signal H: Enable L: Disable
CN122-17	nA[0]	FXB PCB CN160-17		Address Signal
CN122-18	pIOOREQ[4]	FXB PCB CN160-18		Direct Memory Access Data Request Signal H: Enable L: Disable
CN122-19	pIOOREQ[5]	FXB PCB CN160-19		Direct Memory Access Data Request Signal H: Enable L: Disable

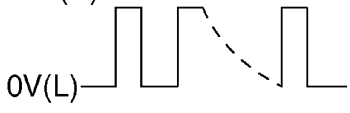
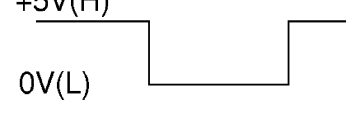
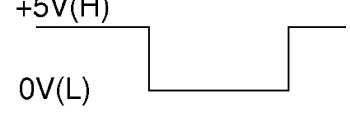
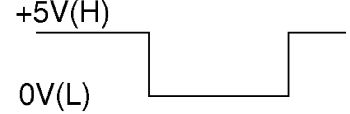
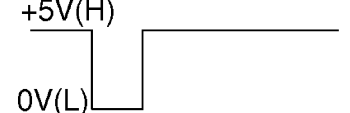



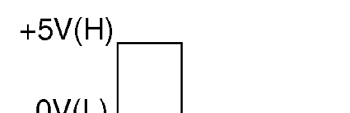
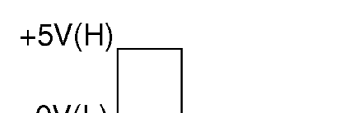
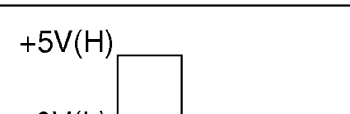
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-20	pIOOACK[4]	FXB PCB CN160-20		Direct Memory Access Data Receive Signal H: Enable L: Disable
CN122-21	pIOOACK[5]	FXB PCB CN160-21		Direct Memory Access Data Receive Signal H: Enable L: Disable
CN122-22	IOD8	FXB PCB CN160-22		Data Signal
CN122-23	IOD9	FXB PCB CN160-23		Data Signal
CN122-24	IOD10	FXB PCB CN160-24		Data Signal
CN122-25	IOD11	FXB PCB CN160-25		Data Signal
CN122-26	IOD12	FXB PCB CN160-26		Data Signal
CN122-27	IOD13	FXB PCB CN160-27		Data Signal
CN122-28	IOD14	FXB PCB CN160-28		Data Signal
CN122-29	IOD15	FXB PCB CN160-29		Data Signal
CN122-30	nCS11	FXB PCB CN160-30		Chip Select Signal

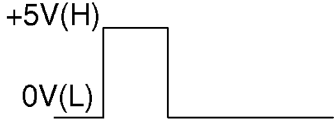
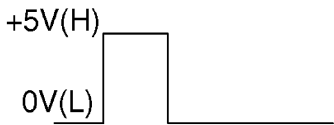
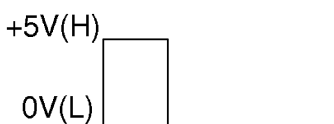
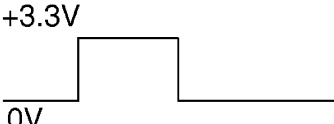
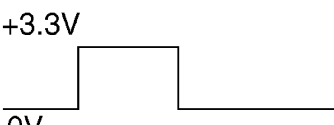
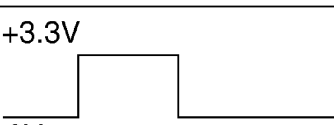

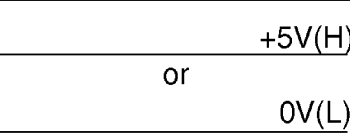
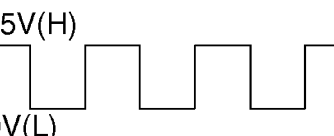
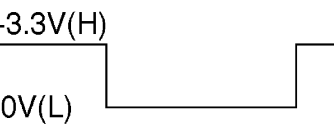
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CN122-31	nCS3	FXB PCB CN160-31		Chip Select Signal
CN122-32	nRST3V	FXB PCB CN160-32		Reset Signal H: Not Reset L: Reset
CN122-33	BZCLK	FXB PCB CN160-33		Buzzer Signal
CN122-34	AL[0]	FXB PCB CN160-34		Address Signal
CN122-35	AL[1]	FXB PCB CN160-35		Address Signal
CN122-36	AL[4]	FXB PCB CN160-36		Address Signal
CN122-37	AL[5]	FXB PCB CN160-37		Address Signal
CN122-38	AL[8]	FXB PCB CN160-38		Address Signal
CN122-39	AL[9]	FXB PCB CN160-39		Address Signal
CN122-40	N.C.	FXB PCB CN160-40		Not Used
CN122-41	AL[12]	FXB PCB CN160-41		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-42	A[13]	FXB PCB CN160-42		Address Signal
CN122-43	A[16]	FXB PCB CN160-43		Address Signal
CN122-44	A[17]	FXB PCB CN160-44		Address Signal
CN122-45	A[20]	FXB PCB CN160-45		Address Signal
CN122-46	nFXBOPT	FXB PCB CN160-46		Fax Option Detection Signal H: Option Not Installed L: Option Installed
CN122-47	A[21]	FXB PCB CN160-47		Address Signal
CN122-48	nMDRST	FXB PCB CN160-48		Modem Reset Signal
CN122-49	+5V	FXB PCB CN160-49		+5 VDC Power Supply
CN122-50	+5V	FXB PCB CN160-50		+5 VDC Power Supply
CN122-51	+12V	FXB PCB CN160-51		+12 VDC Power Supply
CN122-52	+12V	FXB PCB CN160-52		+12 VDC Power Supply

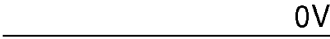
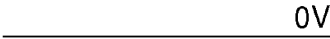
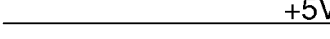
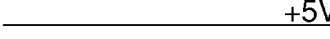
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-53	-12V	FXB PCB CN160-53		-12 VDC Power Supply
CN122-54	-12V	FXB PCB CN160-54		-12 VDC Power Supply
CN122-55	AGND	FXB PCB CN160-55		Ground
CN122-56	AGND	FXB PCB CN160-56		Ground
CN122-57	nVOL0	FXB PCB CN160-57		Monitor Volume
CN122-58	nVOL1	FXB PCB CN160-58		Monitor Volume
CN122-59	nVOL2	FXB PCB CN160-59		Monitor Volume
CN122-60	nVOL3	FXB PCB CN160-60		Monitor Volume
CN122-61	nCTON	FXB PCB CN160-61	H: Standby Mode L: Ringing	Ring Detection Signal
CN122-62	SPKOUT	FXB PCB CN160-62		Monitor Signal
CN122-63	pPLSD	FXB PCB CN160-63		Pulse Dial Relay Drive Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-64	pNAISEN	FXB PCB CN160-64		Line Switching Relay Drive Signal
CN122-65	pMIXDT	FXB PCB CN160-65		Line Switching Relay Drive Signal
CN122-66	pCMLDA	FXB PCB CN160-66		Line Switching Relay Drive Signal
CN122-67	GND	FXB PCB CN160-67		Ground
CN122-68	IOD[0]	FXB PCB CN160-68		Data Signal
CN122-69	IOD[1]	FXB PCB CN160-69		Data Signal
CN122-70	IOD[2]	FXB PCB CN160-70		Data Signal
CN122-71	IOD[3]	FXB PCB CN160-71		Data Signal
CN122-72	IOD[4]	FXB PCB CN160-72		Data Signal
CN122-73	IOD[5]	FXB PCB CN160-73		Data Signal
CN122-74	IOD[6]	FXB PCB CN160-74		Data Signal

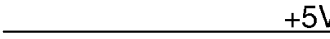

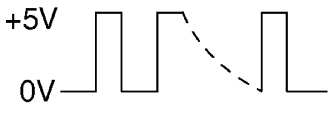
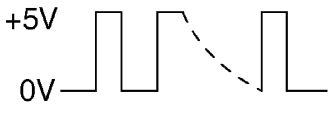
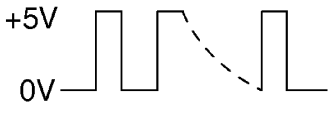
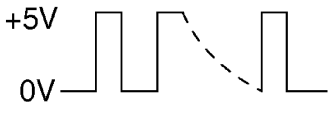
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-75	IOD[7]	FXB PCB CN160-75		Data Signal
CN122-76	nCS00	FXB PCB CN160-76		Modem Control Signal
CN122-77	IOWRL	FXB PCB CN160-77		I/O Write (Low) Signal H: Write Disable L: Write Enable
CN122-78	IOWRH	FXB PCB CN160-78		I/O Write (High) Signal H: Write Disable L: Write Enable
CN122-79	nACK[1]	FXB PCB CN160-79		Modem ACK[1] Signal
CN122-80	nMIRQMD1	FXB PCB CN160-80		Modem Interrupt Request Signal
CN122-81	nIRQMD0	FXB PCB CN160-81		Modem Interrupt Request Signal
CN122-82	GND	FXB PCB CN160-82		Ground
CN122-83	AL[2]	FXB PCB CN160-83		Address Signal
CN122-84	AL[3]	FXB PCB CN160-84		Address Signal
CN122-85	AL[6]	FXB PCB CN160-85		Address Signal

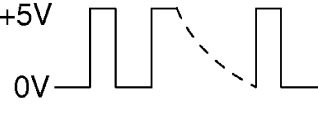
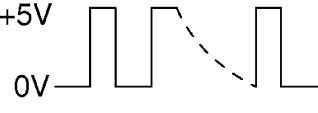
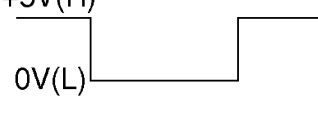


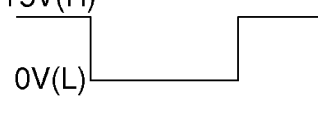
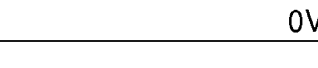
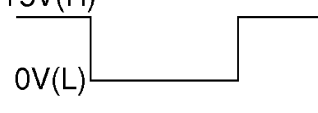

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-86	AL[7]	FXB PCB CN160-86		Address Signal
CN122-87	AL[10]	FXB PCB CN160-87		Address Signal
CN122-88	AL[11]	FXB PCB CN160-88		Address Signal
CN122-89	N.C.	FXB PCB CN160-89		Not Used
CN122-90	A[14]	FXB PCB CN160-90		Address Signal
CN122-91	A[15]	FXB PCB CN160-91		Address Signal
CN122-92	A[18]	FXB PCB CN160-92		Address Signal
CN122-93	A[19]	FXB PCB CN160-93		Address Signal
CN122-94	nFAXDET	FXB PCB CN160-94		Fax Option Detection Signal H: Option Not Installed L: Option Installed
CN122-95	CK14M	FXB PCB CN160-95		Modem Clock
CN122-96	n5VRD	FXB PCB CN160-96		CPU Read Signal H: Read Disable L: Read Enable

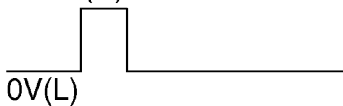
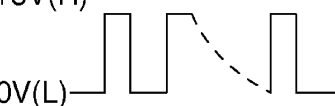
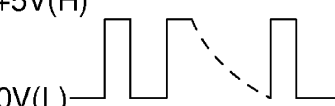
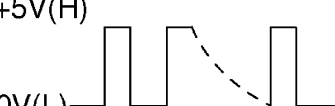
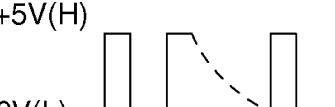
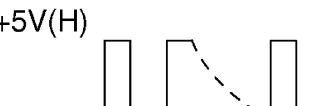


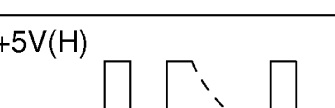




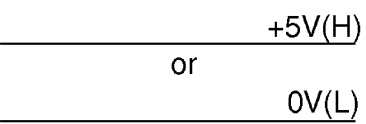
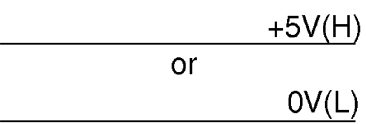




SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN122-97	GND	FXB PCB CN160-97		Ground
CN122-98	GND	FXB PCB CN160-98		Ground
CN122-99	+5VP	FXB PCB CN160-99		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN122-100	+5VP	FXB PCB CN160-100		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.

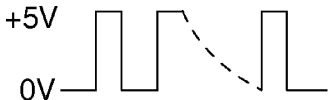
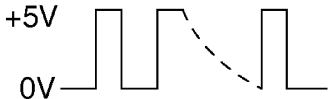
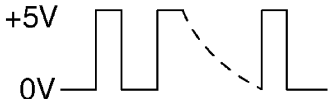
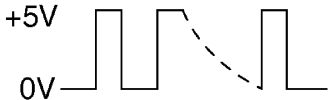
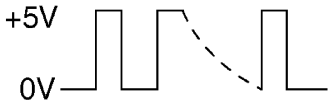
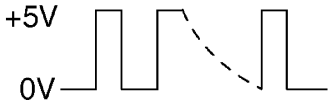




### CN123



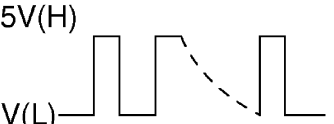
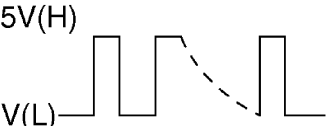
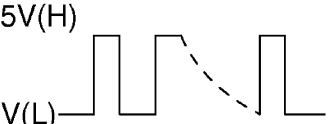
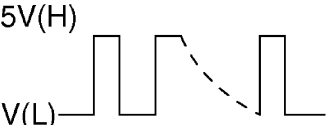
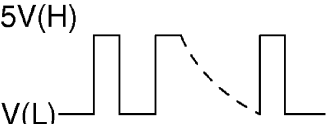
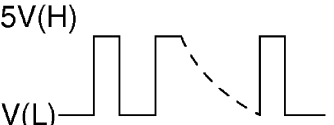
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-1	+5VI	G3B PCB CN131-1 or LANB PCB CN2-1		+5 VDC Power Supply
CN123-2	+5VI	G3B PCB CN131-2 or LANB PCB CN2-2		+5 VDC Power Supply
CN123-3	AL[1]	G3B PCB CN131-3 or LANB PCB CN2-3		Address Signal
CN123-4	AL[2]	G3B PCB CN131-4 or LANB PCB CN2-4		Address Signal
CN123-5	AL[5]	G3B PCB CN131-5 or LANB PCB CN2-5		Address Signal
CN123-6	AL[6]	G3B PCB CN131-6 or LANB PCB CN2-6		Address Signal

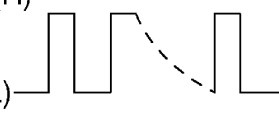
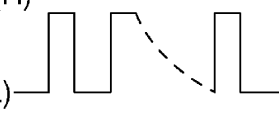
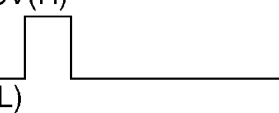

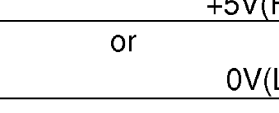
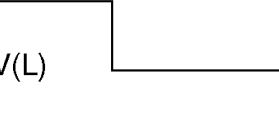
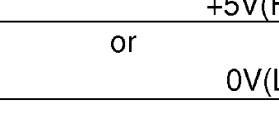
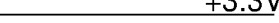
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-7	AL[9]	G3B PCB CN131-7 or LANB PCB CN2-7		Address Signal
CN123-8	AL[10]	G3B PCB CN131-8 or LANB PCB CN2-8		Address Signal
CN123-9	nWAIT	G3B PCB CN131-9 or LANB PCB CN2-9		BUS Wait Signal
CN123-10	N.C.	G3B PCB CN131-10 or LANB PCB CN2-10		Not Used
CN123-11	nCS08	G3B PCB CN131-11 or LANB PCB CN2-11		Chip Enable Signal H: Disable L: Enable
CN123-12	nCS0E	G3B PCB CN131-12 or LANB PCB CN2-12		Chip Enable Signal H: Disable L: Enable
CN123-13	nIOWRH	G3B PCB CN131-13 or LANB PCB CN2-13		I/O Write (High) Signal H: Write Disable L: Write Enable
CN123-14	GND	G3B PCB CN131-14 or LANB PCB CN2-14		Ground
CN123-15	nIRQOP1	G3B PCB CN131-15 or LANB PCB CN2-15		Interrupt Signal
CN123-16	nIRQOP2	G3B PCB CN131-16 or LANB PCB CN2-16		Interrupt Signal

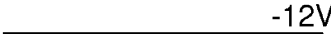

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-17	N.C.	G3B PCB CN131-17 or LANB PCB CN2-17		Not Used
CN123-18	pOP1RST	G3B PCB CN131-18 or LANB PCB CN2-18		Reset Signal H: Reset L: Not Reset
CN123-19	IOD[0]	G3B PCB CN131-19 or LANB PCB CN2-19		Data Signal
CN123-20	IOD[1]	G3B PCB CN131-20 or LANB PCB CN2-20		Data Signal
CN123-21	IOD[4]	G3B PCB CN131-21 or LANB PCB CN2-21		Data Signal
CN123-22	IOD[5]	G3B PCB CN131-22 or LANB PCB CN2-22		Data Signal
CN123-23	IOD[8]	G3B PCB CN131-23 or LANB PCB CN2-23		Data Signal
CN123-24	IOD[9]	G3B PCB CN131-24 or LANB PCB CN2-24		Data Signal
CN123-25	IOD[12]	G3B PCB CN131-25 or LANB PCB CN2-25		Data Signal
CN123-26	IOD[13]	G3B PCB CN131-26 or LANB PCB CN2-26		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-27	nWAIT[2]	G3B PCB CN131-27 or LANB PCB CN2-27		BUS Wait Signal
CN123-28	nWAIT[3]	G3B PCB CN131-28 or LANB PCB CN2-28		BUS Wait Signal
CN123-29	nOPB1	G3B PCB CN131-29 or LANB PCB CN2-29		Option Detection Signal H: Option Not Installed L: Option Installed
CN123-30	nOPB2	G3B PCB CN131-30 or LANB PCB CN2-30		Option Detection Signal H: Option Not Installed L: Option Installed
CN123-31	N.C.	G3B PCB CN131-31 or LANB PCB CN2-31		Not Used
CN123-32	N.C.	G3B PCB CN131-32 or LANB PCB CN2-32		Not Used
CN123-33	+5VP	G3B PCB CN131-33 or LANB PCB CN2-33		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN123-34	+24VF	G3B PCB CN131-34 or LANB PCB CN2-34		+24 VDC Power Supply
CN123-35	GND	G3B PCB CN131-35 or LANB PCB CN2-35		Ground
CN123-36	GND	G3B PCB CN131-36 or LANB PCB CN2-36		Ground



SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-37	AL[3]	G3B PCB CN131-37 or LANB PCB CN2-37		Address Signal
CN123-38	AL[4]	G3B PCB CN131-38 or LANB PCB CN2-38		Address Signal
CN123-39	AL[7]	G3B PCB CN131-39 or LANB PCB CN2-39		Address Signal
CN123-40	AL[8]	G3B PCB CN131-40 or LANB PCB CN2-40		Address Signal
CN123-41	AL[11]	G3B PCB CN131-41 or LANB PCB CN2-41		Address Signal
CN123-42	AL[12]	G3B PCB CN131-42 or LANB PCB CN2-42		Address Signal
CN123-43	nCS09	G3B PCB CN131-43 or LANB PCB CN2-43		Chip Enable Signal H: Disable L: Enable
CN123-44	nCS0A	G3B PCB CN131-44 or LANB PCB CN2-44		Chip Enable Signal H: Disable L: Enable
CN123-45	nIORD	G3B PCB CN131-45 or LANB PCB CN2-45		I/O Read Signal H: Read Disable L: Read Enable
CN123-46	nIOWRL	G3B PCB CN131-46 or LANB PCB CN2-46		I/O Write (Low) Signal H: Write Disable L: Write Enable

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-47	nWAIT[1]	G3B PCB CN131-47 or LANB PCB CN2-47		BUS Wait Signal
CN123-48	N.C.	G3B PCB CN131-48 or LANB PCB CN2-48		Not Used
CN123-49	N.C.	G3B PCB CN131-49 or LANB PCB CN2-49		Not Used
CN123-50	nMIRQPDL	G3B PCB CN131-50 or LANB PCB CN2-50		Interrupt Request Signal H: Disable L: Enable
CN123-51	IOD[2]	G3B PCB CN131-51 or LANB PCB CN2-51		Data Signal
CN123-52	IOD[3]	G3B PCB CN131-52 or LANB PCB CN2-52		Data Signal
CN123-53	IOD[6]	G3B PCB CN131-53 or LANB PCB CN2-53		Data Signal
CN123-54	IOD[7]	G3B PCB CN131-54 or LANB PCB CN2-54		Data Signal
CN123-55	IOD[10]	G3B PCB CN131-55 or LANB PCB CN2-55		Data Signal
CN123-56	IOD[11]	G3B PCB CN131-56 or LANB PCB CN2-56		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-57	IOD[14]	G3B PCB CN131-57 or LANB PCB CN2-57	+5V(H) 0V(L) 	Data Signal
CN123-58	IOD[15]	G3B PCB CN131-58 or LANB PCB CN2-58	+5V(H) 0V(L) 	Data Signal
CN123-59	pOP2RST	G3B PCB CN131-59 or LANB PCB CN2-59	+3.3V(H) 0V(L) 	Reset Signal H: Reset L: Not Reset
CN123-60	pOP3RST	G3B PCB CN131-60 or LANB PCB CN2-60	+3.3V(H) 0V(L) 	Reset Signal H: Reset L: Not Reset
CN123-61	nOPB3	G3B PCB CN131-61 or LANB PCB CN2-61	+5V(H) or 0V(L) 	Option Detection Signal G3B or LANB Option Detection Signal L: Option Not Installed H: Option Installed
CN123-62	N.C.	G3B PCB CN131-62 or LANB PCB CN2-62		Not Used
CN123-63	nPSDES	G3B PCB CN131-63 or LANB PCB CN2-63	+5V(H) 0V(L) 	Energy Saver Mode Disable Signal
CN123-64	N.C.	G3B PCB CN131-64 or LANB PCB CN2-64		Not Used
CN123-65	nOPON	G3B PCB CN131-65 or LANB PCB CN2-65	+5V(H) or 0V(L) 	Option Detection Signal H: Option Not Installed L: Option Installed
CN123-66	+3.3V	G3B PCB CN131-66 or LANB PCB CN2-66	+3.3V 	+3.3 VDC Power Supply

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-67	-12V	G3B PCB CN131-67 or LANB PCB CN2-67		-12 VDC Power Supply
CN123-68	AGND	G3B PCB CN131-68 or LANB PCB CN2-68		Ground


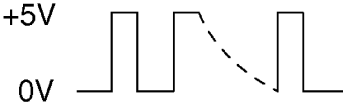
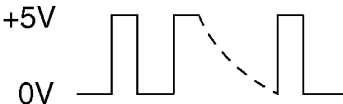
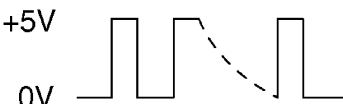
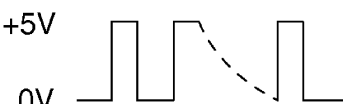
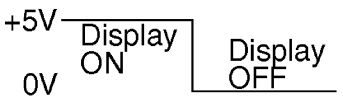

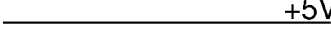
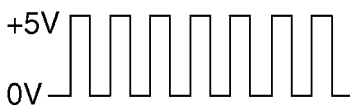
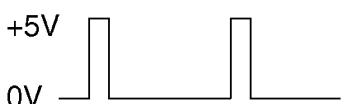
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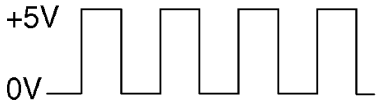
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN125-1	SPKOUT	SPEAKER		Monitor Signal
CN125-2	GND	SPEAKER		Ground




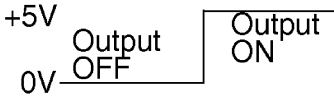

### 3.7. PNL1 PC Board

#### CN61



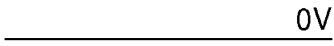
PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN61-1	VLCD	LCD Module-1	21.6V ~ 23.6V	LCD Drive Volume Voltage
CN61-2	VEE	LCD Module-2	 +24V	+24 VDC Power Supply
CN61-3	D3	LCD Module-3		Data Signal
CN61-4	D2	LCD Module-4		Data Signal
CN61-5	D1	LCD Module-5		Data Signal
CN61-6	D0	LCD Module-6		Data Signal
CN61-7	nDSPOFF	LCD Module-7		Display Off Signal L: Display Off
CN61-8	VSS	LCD Module-8	 0V	Ground
CN61-9	VDD	LCD Module-9	 +5V	+5 VDC Power Supply
CN61-10	CP	LCD Module-10		Data Shift Clock Signal
CN61-11	LOAD	LCD Module-11		Data Latch Signal

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN61-12	FRM	LCD Module-12		Frame Signal

#### CN62

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN62-1	+24V	INVERTER CN1-1		+24 VDC Power Supply
CN62-2	pLCDON	INVERTER CN1-2		Inverter Control Signal H: Inverter Output ON
CN62-3	GND	INVERTER CN1-3		Ground

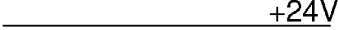


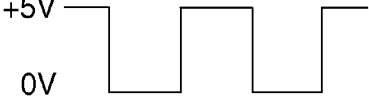
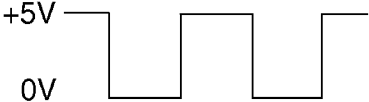
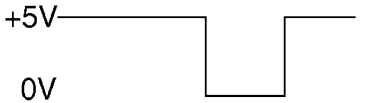
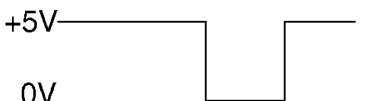

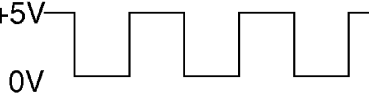
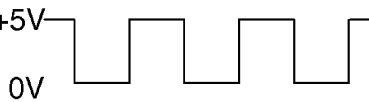
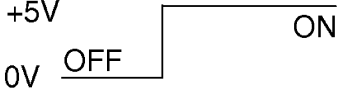
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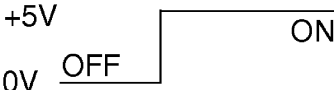
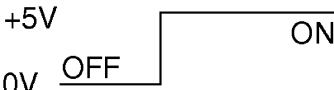
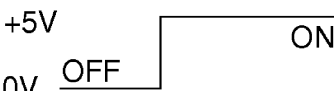
PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN63-1	X1	Touch Panel-1		Touch Panel Matrix Signal
CN63-2	Y1	Touch Panel-2		Touch Panel Matrix Signal
CN63-3	X2	Touch Panel-3		Touch Panel Matrix Signal
CN63-4	Y2	Touch Panel-4		Touch Panel Matrix Signal

#### CN65

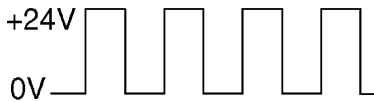
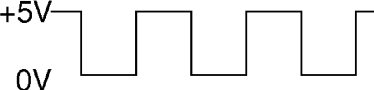
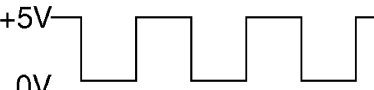
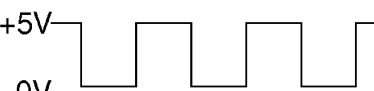



Refer to SC PC Board CN108.

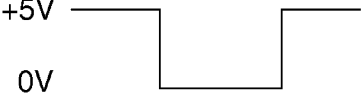
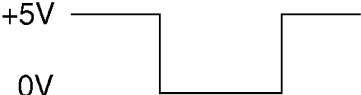
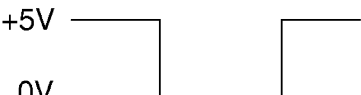





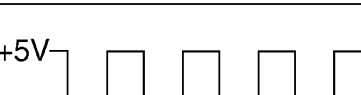


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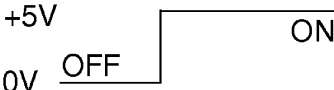
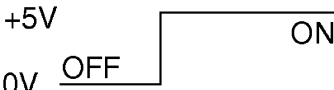






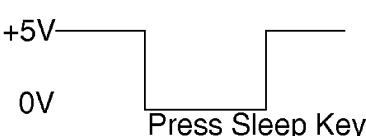



PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN66-1	+24VD	PNL3 PCB CN70-1		+24 VDC Power Supply
CN66-2	VLCD	PNL3 PCB CN70-2		LCD Drive Volume Voltage
CN66-3	GND	PNL3 PCB CN70-3		Ground
CN66-4	SCN[0]	PNL3 PCB CN70-4		Key Scan Signal
CN66-5	SCN[1]	PNL3 PCB CN70-5		Key Scan Signal
CN66-6	KEYIN0	PNL3 PCB CN70-6		Key Scan Signal
CN66-7	KEYIN1	PNL3 PCB CN70-7		Key Scan Signal
CN66-8	KEYIN2	PNL3 PCB CN70-8		Key Scan Signal
CN66-9	LEDCT0	PNL3 PCB CN70-9		LED Matrix Signal
CN66-10	LEDCT1	PNL3 PCB CN70-10		LED Matrix Signal
CN66-11	LED0	PNL3 PCB CN70-11		LED Matrix Signal

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN66-12	LED1	PNL3 PCB CN70-12		LED Matrix Signal
CN66-13	LED2	PNL3 PCB CN70-13		LED Matrix Signal
CN66-14	LED3	PNL3 PCB CN70-14		LED Matrix Signal

#### CN67

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN67-1	BUZCLK	PNL2 PCB CN69-1		Buzzer Clock
CN67-2	SCN1	PNL2 PCB CN69-2		Key Scan Signal
CN67-3	SCN2	PNL2 PCB CN69-3		Key Scan Signal
CN67-4	SCN3	PNL2 PCB CN69-4		Key Scan Signal
CN67-5	SCN4	PNL2 PCB CN69-5		Key Scan Signal
CN67-6	SCN5	PNL2 PCB CN69-6		Key Scan Signal
CN67-7	KEYIN0	PNL2 PCB CN69-7		Key Scan Signal

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN67-8	KEYIN1	PNL2 PCB CN69-8		Key Scan Signal
CN67-9	KEYIN2	PNL2 PCB CN69-9		Key Scan Signal
CN67-10	KEYIN3	PNL2 PCB CN69-10		Key Scan Signal
CN67-11	KEYIN4	PNL2 PCB CN69-11		Key Scan Signal
CN67-12	KEYIN5	PNL2 PCB CN69-12		Key Scan Signal
CN67-13	KEYIN6	PNL2 PCB CN69-13		Key Scan Signal
CN67-14	KEYIN7	PNL2 PCB CN69-14		Key Scan Signal
CN67-15	LEDCT0	PNL2 PCB CN69-15		LED Matrix Signal
CN67-16	LEDCT1	PNL2 PCB CN69-16		LED Matrix Signal
CN67-17	LED4	PNL2 PCB CN69-17		LED Matrix Signal
CN67-18	LED5	PNL2 PCB CN69-18		LED Matrix Signal

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN67-19	LED6	PNL2 PCB CN69-19		LED Matrix Signal
CN67-20	LED7	PNL2 PCB CN69-20		LED Matrix Signal
CN67-21	BAT	PNL2 PCB CN69-21		Battery Voltage
CN67-22	pLEDON0	PNL2 PCB CN69-22		LED Lighting Signal
CN67-23	+24V	PNL2 PCB CN69-23		+24 VDC Power Supply
CN67-24	pLEDON1	PNL2 PCB CN69-24		LED Lighting Signal
CN67-25	pLEDSLP	PNL2 PCB CN69-25		LED Lighting Signal
CN67-26	+5VP	PNL2 PCB CN69-26		+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN67-27	nSLPKY1	PNL2 PCB CN69-27		Sleep Key Signal
CN67-28	GND	PNL2 PCB CN69-28		Ground
CN67-29	GND	PNL2 PCB CN69-29		Ground
CN67-30	GND	PNL2 PCB CN69-30		Ground

CN68

PNL1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN68-1	GND	FG	<div><div></div><div>0V</div></div>	Ground

### **3.8. PNL2 PC Board**

**CN69**

Refer to PNL1 PC Board CN67




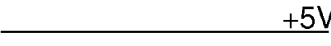
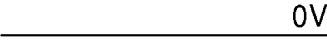
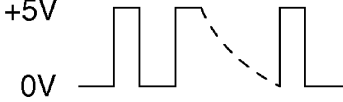
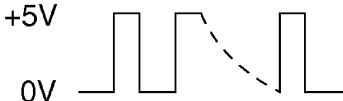
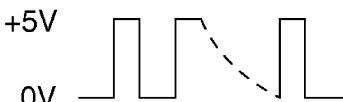
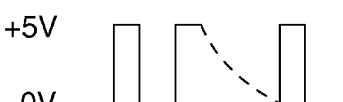
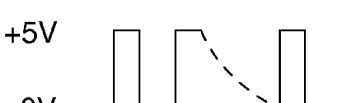
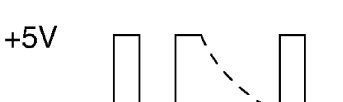
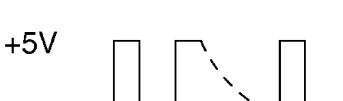

### **3.9. PNL3 PC Board**

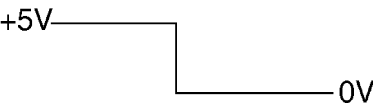
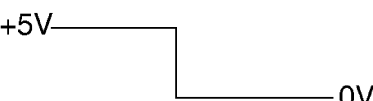
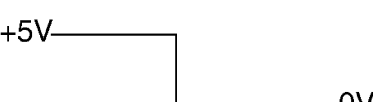
#### **CN70**

Refer to PNL1 PC Board CN66.

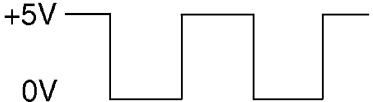
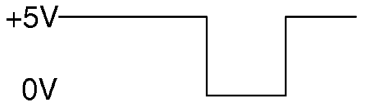


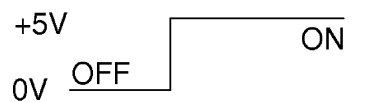
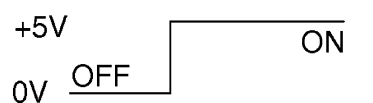
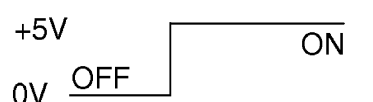
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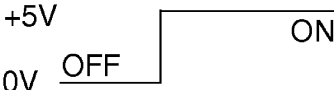
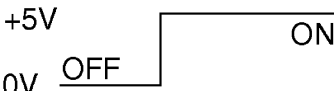
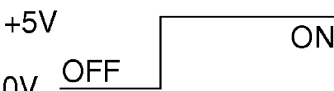
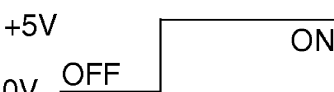

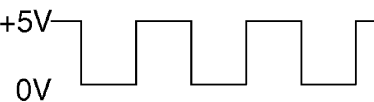
#### CN61

PNL4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN61-1	V0	LCD Module-1		+0.16 VDC Power Supply
CN61-2	VDD	LCD Module-2		+5 VDC Power Supply
CN61-3	VSS	LCD Module-3		Ground
CN61-4	DB[7]	LCD Module-4		Data Signal
CN61-5	DB[6]	LCD Module-5		Data Signal
CN61-6	DB[5]	LCD Module-6		Data Signal
CN61-7	DB[4]	LCD Module-7		Data Signal
CN61-8	DB[3]	LCD Module-8		Data Signal
CN61-9	DB[2]	LCD Module-9		Data Signal
CN61-10	DB[1]	LCD Module-10		Data Signal
CN61-11	DB[0]	LCD Module-11		Data Signal

PNL4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN61-12	E	LCD Module-12		Data Read/Write Enable Signal H: Enable L: Disable
CN61-13	R/W	LCD Module-12		Data Read/Write Select Signal H: Read L: Write
CN61-14	RS	LCD Module-12		Resister Select Signal H: Data Register L: Instruction Register

## CN62

PNL4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN62-1	SCN[1]	PNL4 PCB CN63-1		Key Scan Signal
CN62-2	KIN[1]	PNL4 PCB CN63-2		Key Scan Signal
CN62-3	KIN[2]	PNL4 PCB CN63-3		Key Scan Signal
CN62-4	KIN[6]	PNL4 PCB CN63-4		Key Scan Signal
CN62-5	LV[0]	PNL4 PCB CN63-5		LED Matrix Signal
CN62-6	LV[1]	PNL4 PCB CN63-6		LED Matrix Signal
CN62-7	LV[2]	PNL4 PCB CN63-7		LED Matrix Signal

PNL4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN62-8	LV[3]	PNL4 PCB CN63-8		LED Matrix Signal
CN62-9	LV[5]	PNL4 PCB CN63-9		LED Matrix Signal
CN62-10	LV[6]	PNL4 PCB CN63-10		LED Matrix Signal
CN62-11	LV[7]	PNL4 PCB CN63-11		LED Matrix Signal
CN62-12	LV[8]	PNL4 PCB CN63-12		LED Matrix Signal
CN62-13	LH[3]	PNL4 PCB CN63-13		LED Matrix Signal
CN62-14	N.C.			

#### **CN63**

Refer to PNL4 PC Board CN62.

#### **CN65**

Refer to SC PC Board CN108.

#### **CN67**

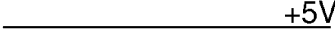
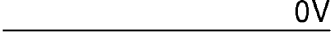

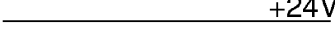
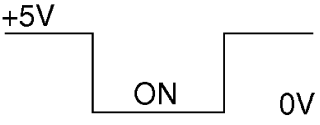
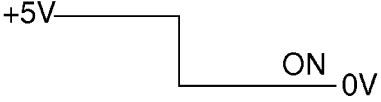
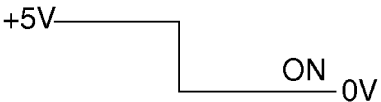
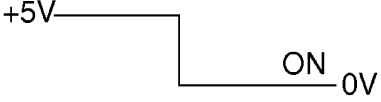
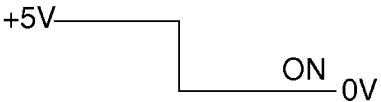
Refer to PNL1 PC Board CN67.

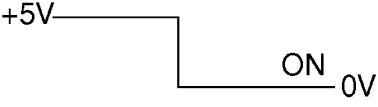
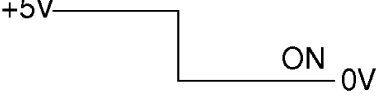
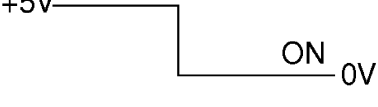
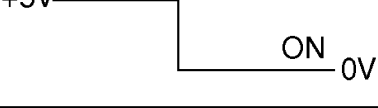

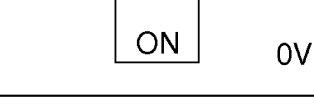
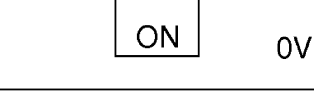
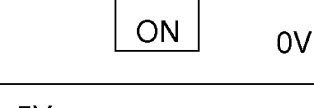
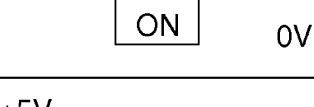
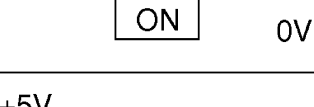
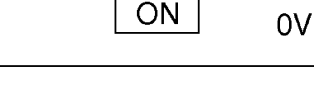
### 3.11. SCN PC Board

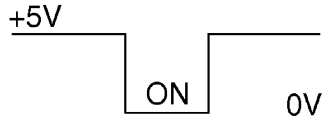
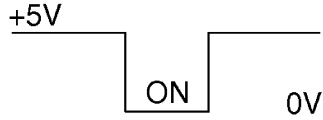
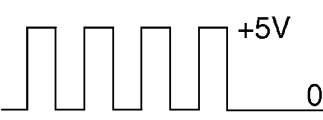
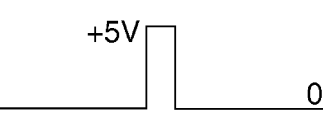
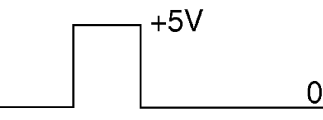
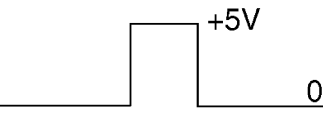
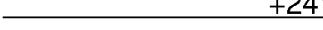



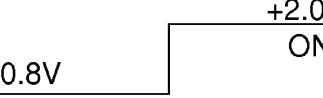

#### CN2

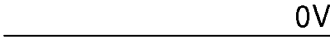
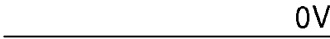
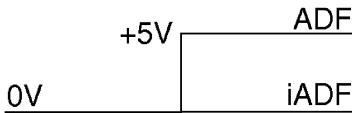
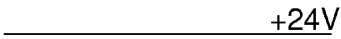

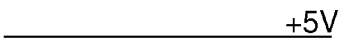

Refer to SC PC Board CN103.

#### CN3


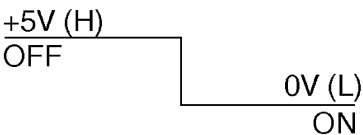

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-1	+5VP	ADF PCB CN21-1		+5 VDC Power Supply
CN3-2	MGND	ADF PCB CN21-2		Ground
CN3-3	GND	ADF PCB CN21-3		Ground
CN3-4	+24V	ADF PCB CN21-4		+24 VDC Power Supply
CN3-5	nAAPNT	ADF PCB CN21-5		Original Detection Signal L: Detect
CN3-6	N.C.	ADF PCB CN21-6		Not Used
CN3-7	nAA3S	ADF PCB CN21-7		Original Width Detection Signal L: Detect
CN3-8	nA3SN	ADF PCB CN21-8		Original Width Detection Signal L: Detect
CN3-9	nADL1	ADF PCB CN21-9		Original Length Detection Signal L: Detect
CN3-10	nADL2	ADF PCB CN21-10		Original Length Detection Signal L: Detect

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-11	nAB2SN	ADF PCB CN21-11		Duplex Eject Detection Signal L: Detect
CN3-12	nAB1SN	ADF PCB CN21-12		Read Point Detection Signal L: Detect
CN3-13	nAEJC	ADF PCB CN21-13		Original Eject Detection Signal L: Detect
CN3-14	nAREV	ADF PCB CN21-14		ADF Exit Cover Open Detection Signal L: Detect
CN3-15	nAOAC	ADF PCB CN21-15		ADF Cover Open Detection Signal L: Detect
CN3-16	pKEEP1	ADF PCB CN21-16		ADF Document Stopper Solenoid Control Signal
CN3-17	pKEEP2	ADF PCB CN21-17		ADF Document Stopper Solenoid Control Signal
CN3-18	pAPACHG	ADF PCB CN21-18		Duplex 2 Guide Solenoid Control Signal
CN3-19	pAPICR	ADF PCB CN21-19		Release Lever Plate Solenoid Control Signal
CN3-20	pASTAMP	ADF PCB CN21-20		ADF Stamp Solenoid Control Signal
CN3-21	pAC LH1	ADF PCB CN21-21		Feed 2 Roller Clutch Control Signal

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-22	pACLH2	ADF PCB CN21-22		ADF Roller Clutch Control Signal
CN3-23	pACLH3	ADF PCB CN21-23		Inverting Roller Clutch Control Signal
CN3-24	nACLOCKAD1	ADF PCB CN21-24		ADF Motor Control Clock Signal
CN3-25	nASTROAD1	ADF PCB CN21-25		ADF Motor Control Strobe Signal
CN3-26	pADATA1A	ADF PCB CN21-26		ADF Motor Control Signal
CN3-27	pADATA1B	ADF PCB CN21-27		ADF Motor Control Signal
CN3-28	+24V	ADF PCB CN21-28		+24 VDC Power Supply
CN3-29	GND	ADF PCB CN21-29		Ground
CN3-30	+24V	ADF PCB CN21-30		+24 VDC Power Supply
CN3-31	GND	ADF PCB CN21-31		Ground
CN3-32	DAA1	ADF PCB CN21-32		ADF Motor Current Control Signal
CN3-33	MGND	ADF PCB CN21-33		Ground

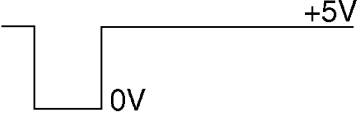

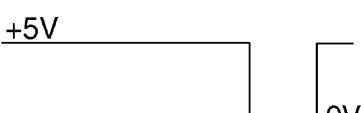
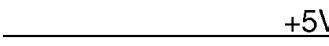
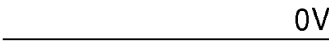
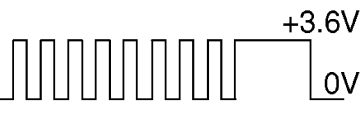
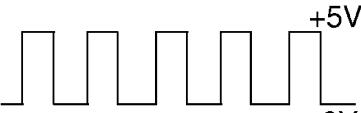
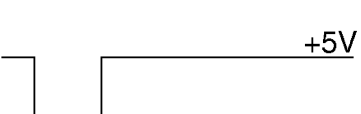
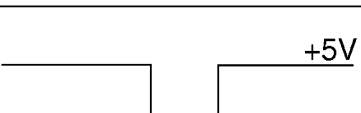
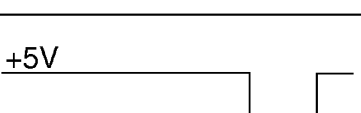
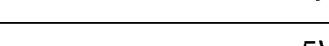
SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-34	MGND	ADF PCB CN21-34		Ground
CN3-35	GND	ADF PCB CN21-35		Ground
CN3-36	nDADFON	ADF PCB CN21-36		ADF Option Detection Signal H: ADF Option Installed L: iADF Option Installed
CN3-37	+24V	ADF PCB CN21-37		+24 VDC Power Supply
CN3-38	MGND	ADF PCB CN21-38		Ground
CN3-39	+5V	ADF PCB CN21-39		+5 VDC Power Supply
CN3-40	+5V	ADF PCB CN21-40		+5 VDC Power Supply

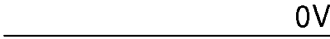
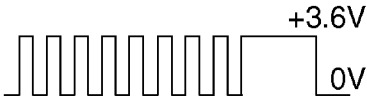
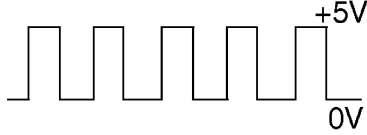
#### CN6

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN6-1	ORISENCMN	Home Position Sensor		Sensor +2.8 VDC Power Supply
CN6-2	nORI	Home Position Sensor		Home Position Detection Signal
CN6-3	GND	Home Position Sensor		Ground

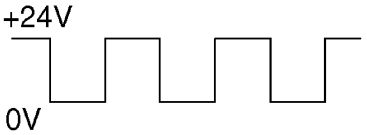
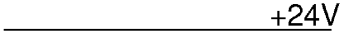
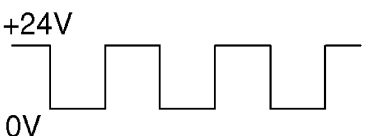
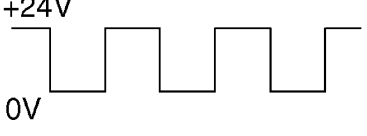
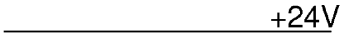
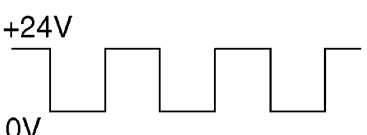


**CN7**

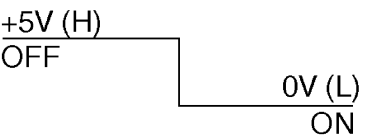
SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN7-1	LEDA	Size Sensor 3		Select Sensor Signal
CN7-2	LEDB	Size Sensor 3		Select Sensor Signal
CN7-3	LEDC	Size Sensor 3		Select Sensor Signal
CN7-4	+5V	Size Sensor 3		+5 VDC Power Supply
CN7-5	GND	Size Sensor 3		Ground
CN7-6	VINA	Size Sensor 3		Sensor Input Signal
CN7-7	VOUTA	Size Sensor 3		Sensor Control Signal
CN7-8	LEDX	Size Sensor 3		Select Sensor Signal
CN7-9	LEDY	Size Sensor 3		Select Sensor Signal
CN7-10	LEDZ	Size Sensor 1 & 3		Select Sensor Signal
CN7-11	+5V	Size Sensor 1 & 3		+5 VDC Power Supply

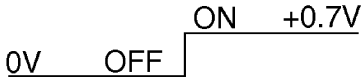

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN7-12	GND	Size Sensor 1 & 3		Ground
CN7-13	VINX	Size Sensor 3		Sensor Input Signal
CN7-14	VOUTX	Size Sensor 3		Sensor Control Signal

#### CN8

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN8-1	OUTA	Stepping Motor		Motor Control Signal
CN8-2	+24V	Stepping Motor		+24 VDC Power Supply
CN8-3	nOUTA	Stepping Motor		Motor Control Signal
CN8-4	OUTB	Stepping Motor		Motor Control Signal
CN8-5	+24V	Stepping Motor		+24 VDC Power Supply
CN8-6	nOUTB	Stepping Motor		Motor Control Signal



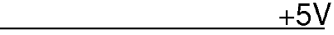

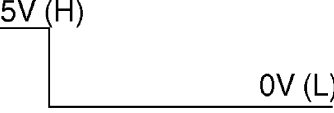
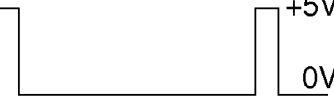

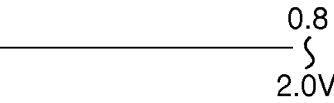
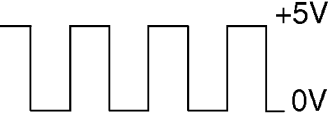
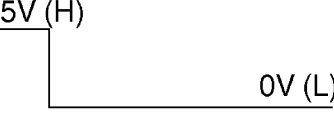

#### CN9

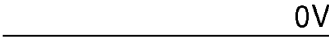
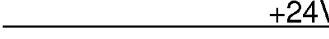
SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN9-1	nFLON	INV CN1-1		Inverter Ground

SCN PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN9-2	FLNG	INV CN1-2		Inverter Control Signal
CN9-3	+24V	INV CN1-3		+24 VDC Power Supply

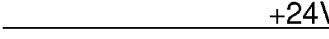
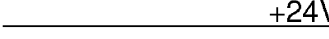
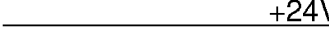
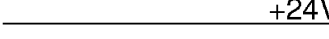

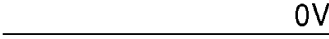
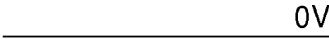

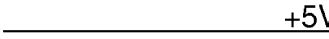
### 3.12. LPC PC Board




#### CN701

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN701-1	nS/H	LSU CN2-1		Sample Hold Signal
CN701-2	nHSYNC	LSU CN2-2		Horizontal Synchronous Signal
CN701-3	L+5V	LSU CN2-3		Laser Circuit +5 VDC Power Supply
CN701-4	MGND	LSU CN2-4		Ground
CN701-5	nLDON	LSU CN2-5		Laser Control
CN701-6	pLDCTL	LSU CN2-6		Laser Control
CN701-7	MGND	LSU CN2-7		Ground
CN701-8	LASERPOW	LSU CN2-8		Laser Power Control
CN701-9	PMCK	LSU CN3-1		Polygon Motor Clock
CN701-10	nPMRDY	LSU CN3-2		Polygon Motor Ready Signal
CN701-11	nPMON	LSU CN3-3		Polygon Motor Rotation Signal



LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN701-12	MGND	LSU CN3-4	 0V	Ground
CN701-13	+24V	LSU CN3-5	 +24V	+24 VDC Power Supply

## CN702


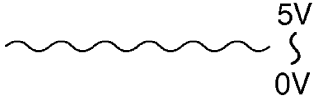


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN702-1	+24V	LVPS CN62-1	 +24V	+24 VDC Power Supply
CN702-2	+24V	LVPS CN62-2	 +24V	+24 VDC Power Supply
CN702-3	+24V	LVPS CN62-3	 +24V	+24 VDC Power Supply
CN702-4	+24V	LVPS CN62-4	 +24V	+24 VDC Power Supply
CN702-5	MGND	LVPS CN62-5	 0V	Ground
CN702-6	MGND	LVPS CN62-6	 0V	Ground
CN702-7	MGND	LVPS CN62-7	 0V	Ground
CN702-8	MGND	LVPS CN62-8	 0V	Ground
CN702-9	+5V	LVPS CN62-9	 +5V	+5 VDC Power Supply

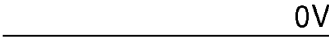
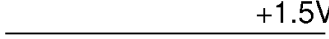
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN702-10	+5V	LVPS CN62-10		+5 VDC Power Supply
CN702-11	GND	LVPS CN62-11		Ground
CN702-12	GND	LVPS CN62-12		Ground

### CN703


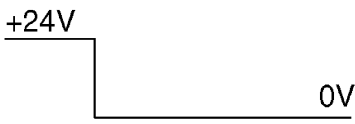
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN703-1	+24V	Micro Switch		+24 VDC Power Supply
CN703-2	N.C.			Not Used
CN703-3	+24VD1	Micro Switch		+24 VDC Power Supply

### CN705



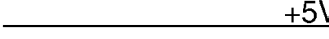



LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN705-1	GND	TONER SENSOR		Ground
CN705-2	TONERSEN	TONER SENSOR		Toner Sensor Signal
CN705-3	+5V	TONER SENSOR		+5 VDC Power Supply
CN705-4	nRSEN	REGISTRATION SENSOR		Registration Sensor Signal

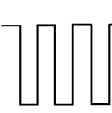
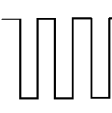
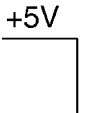
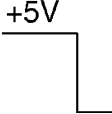
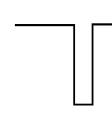
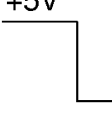
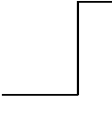
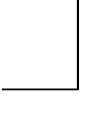
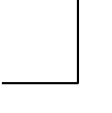
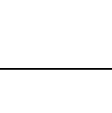

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN705-5	GND	REGISTRATION SENSOR		Ground
CN705-6	LDRSEN	REGISTRATION SENSOR		Photo Sensor DC Drive Voltage

#### CN706

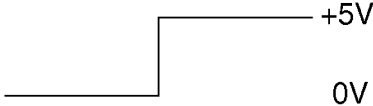
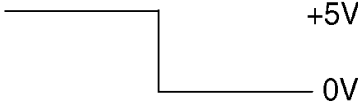
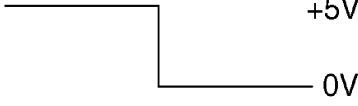



LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN706-1	+24VM	Lift DC Motor-1		+24 VDC Power Supply
CN706-2	nMMRDY	Lift DC Motor-2		Lift DC Motor Ready Signal

#### CN707 (For DP-2000/2500)



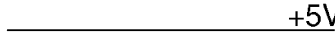

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-1	+24VM	CST2 PCB CN770-3		+24 VDC Power Supply
CN707-2	MGND	CST2 PCB CN770-4		Ground
CN707-3	+5V	CST2 PCB CN770-5		+5 VDC Power Supply
CN707-4	GND	CST2 PCB CN770-6		Ground
CN707-5	nOP3RST	CST2 PCB CN770-7		Paper Tray Interface Reset Signal H: Not Reset L: Reset
CN707-6	nOPCMD	CST2 PCB CN770-8		Paper Tray Command Signal


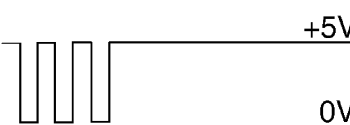
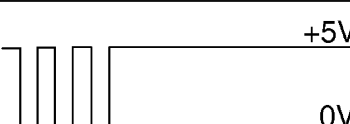
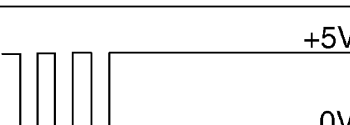
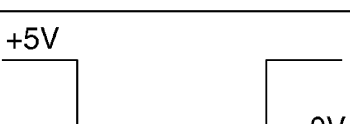
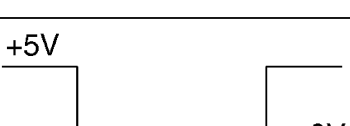
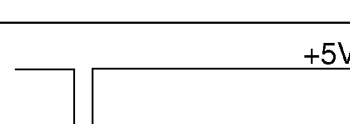

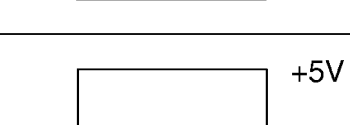
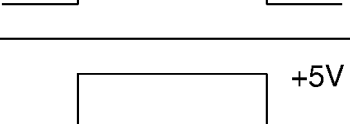
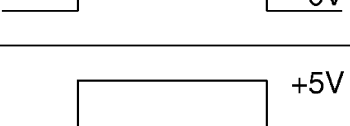
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-7	nOPSTA	CST2 PCB CN770-9	 +5V 0V	Paper Tray Status Signal
CN707-8	nOPCLK	CST2 PCB CN770-10	 +5V 0V	Paper Tray Command Status Clock Signal
CN707-9	nOPCBSY	CST2 PCB CN770-11	 +5V 0V	Paper Tray Command Busy Signal H: Command Not Busy L: Command Busy
CN707-10	nOPSBSY	CST2 PCB CN770-12	 +5V 0V	Paper Tray Status Busy Signal H: Status Not Busy L: Status Busy
CN707-11	nOPFEED	CST2 PCB CN770-13	 +5V 0V	Paper Tray Feed Clutch Signal
CN707-12	nOPFEDBSY	CST2 PCB CN770-14	 +5V 0V	Paper Tray Feed Clutch Busy Signal H: Command Not Busy L: Command Busy
CN707-13	pPADF2	CST2 PCB CN771-1	 +5V 0V	2nd Paper Tray Registration Signal
CN707-14	pMRCLH2	CST2 PCB CN771-2	 +5V 0V	2nd Paper Tray Intermediate Roller Clutch Signal
CN707-15	pLIFT2	CST2 PCB CN771-3	 +5V 0V	2nd Paper Tray Lift Motor Signal
CN707-16	nPCHK2	CST2 PCB CN771-4	 +5V 0V	2nd Paper Tray Paper Detection Signal L: Detect
CN707-17	nCST2	CST2 PCB CN771-5	 +5V 0V	2nd Paper Tray Detection Signal L: Detect

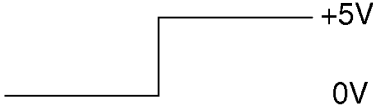
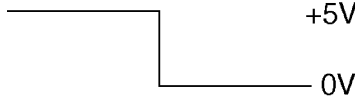
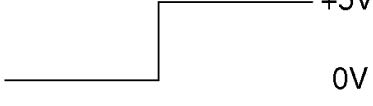
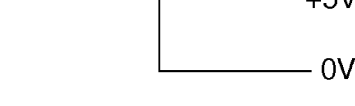
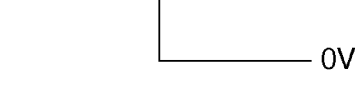
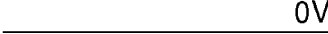
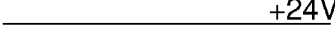

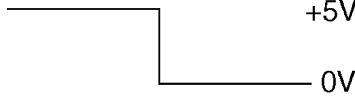
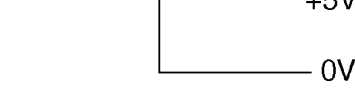


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-18	nUPLIMIT2	CST2 PCB CN771-6		2nd Paper Tray Paper Level Signal L: Detect
CN707-19	nFDPCHK2	CST2 PCB CN771-7		2nd Paper Tray Paper Registration Detection Signal L: Detect
CN707-20	nJAMDOR2	CST2 PCB CN771-8		2nd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN707-21	nCSTOP	CST2 PCB CN771-9		2nd Paper Feed Module Detection Signal
CN707-22	N.C.	CST2 PCB CN771-10		Not Used
CN707-23	+24VM	CST2 PCB CN771-11		+24 VDC Power Supply
CN707-24	MGND	CST2 PCB CN771-12		Ground

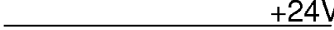
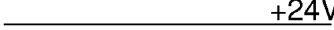
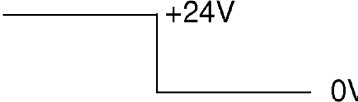



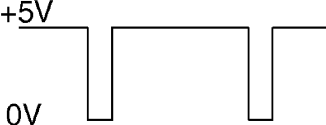
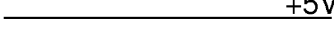
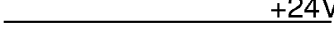
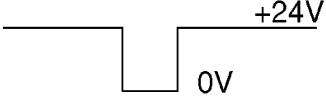
#### CN707 (For DP-3000)

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-1	+24VM	CST2 PCB CN770-3		+24 VDC Power Supply
CN707-2	MGND	CST2 PCB CN770-4		Ground
CN707-3	+5V	CST2 PCB CN770-5		+5 VDC Power Supply
CN707-4	GND	CST2 PCB CN770-6		Ground

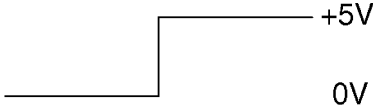


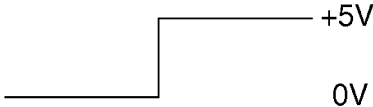


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-5	nOP3RST	CST2 PCB CN770-7	 +5V (H) 0V (L)	Paper Tray Interface Reset Signal H: Not Reset L: Reset
CN707-6	nOPCMD	CST2 PCB CN770-8	 +5V 0V	Paper Tray Command Signal
CN707-7	nOPSTA	CST2 PCB CN770-9	 +5V 0V	Paper Tray Status Signal
CN707-8	nOPCLK	CST2 PCB CN770-10	 +5V 0V	Paper Tray Command Status Clock Signal
CN707-9	nOPCBSY	CST2 PCB CN770-11	 +5V 0V	Paper Tray Command Busy Signal H: Command Not Busy L: Command Busy
CN707-10	nOPSBSY	CST2 PCB CN770-12	 +5V 0V	Paper Tray Status Busy Signal H: Status Not Busy L: Status Busy
CN707-11	nOPFEED	CST2 PCB CN770-13	 +5V 0V	Paper Tray Feed Clutch Signal
CN707-12	nOPFEDBSY	CST2 PCB CN770-14	 +5V 0V	Paper Tray Feed Clutch Busy Signal H: Command Not Busy L: Command Busy
CN707-13	pPADF2	CST2 PCB CN771-1	 +5V 0V	2nd Paper Tray Registration Signal
CN707-14	pMRCLH2	CST2 PCB CN771-2	 +5V 0V	2nd Paper Tray Intermediate Roller Clutch Signal
CN707-15	pLIFT2	CST2 PCB CN771-3	 +5V 0V	2nd Paper Tray Lift Motor Signal

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-16	nPCHK2	CST2 PCB CN771-4		2nd Paper Tray Paper Detection Signal L: Detect
CN707-17	nCST2	CST2 PCB CN771-5		2nd Paper Tray Detection Signal L: Detect
CN707-18	nUPLIMIT2	CST2 PCB CN771-6		2nd Paper Tray Paper Level Signal L: Detect
CN707-19	nFDPCHK2	CST2 PCB CN771-7		2nd Paper Tray Paper Registration Detection Signal L: Detect
CN707-20	nJAMDOR2	CST2 PCB CN771-8		2nd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN707-21	nCSTOP	CST2 PCB CN771-9		2nd Paper Feed Module Detection Signal
CN707-22	N.C.	CST2 PCB CN771-10		Not Used
CN707-23	+24VM	CST2 PCB CN771-11		+24 VDC Power Supply
CN707-24	MGND	CST2 PCB CN771-12		Ground
CN707-25	nFDPCHK3	CST2 PCB CN770-15		3rd Paper Tray Paper Registration Detection Signal L: Detect
CN707-26	nFDPCHK4	CST2 PCB CN770-16		4th Paper Tray Paper Registration Detection Signal L: Detect

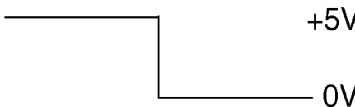


**CN708**

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN708-1	+24VD1	Front Cover Sensor-1 (ILS PCB)		+24 VDC Power Supply
CN708-2	N.C.			Not Used
CN708-3	+24VD2	Front Cover Sensor-2 (ILS PCB)		+24 VDC Power Supply
CN708-4	nACSW	HTC PCB CN765-1		Relay Control Signal
CN708-5	+24VF4	HTC PCB CN765-2		+24 VDC Power Supply
CN708-6	GND	HTC PCB CN765-3		Ground
CN708-7	pZCIN	HTC PCB CN765-4		Heater Control Signal
CN708-8	nSSR	HTC PCB CN765-5		Heater Control Signal
CN708-9	+5V	HTC PCB CN765-6		+5 VDC Power Supply
CN708-10	+24VM	COUNTER-1		+24 VDC Power Supply
CN708-11	nCOUNT	COUNTER-2		Counter Drive Signal

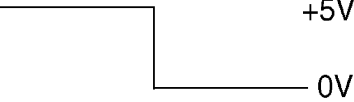
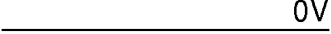

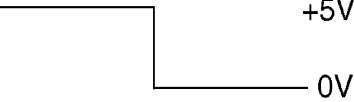


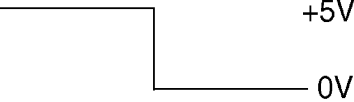




**CN709**

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN709-1	nPCHK1	Paper Level Sensor-1		1st Paper Tray Paper Detection Signal L: Detect
CN709-2	GND	Paper Level Sensor-2		Ground
CN709-3	LDPS	Paper Level Sensor-3		Photo Sensor DC Drive Voltage
CN709-4	nUPLIMIT1	No Paper Sensor-4		Paper Level Signal (1st Feeder) L: Detect
CN709-5	GND	No Paper Sensor-5		Ground
CN709-6	LDUPL	No Paper Sensor-6		Photo Sensor DC Drive Voltage
CN709-7	N.C.			Not Used


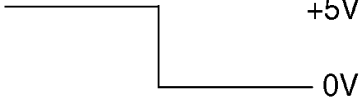
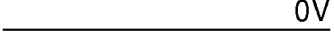
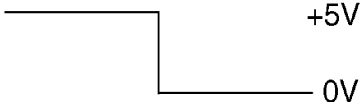
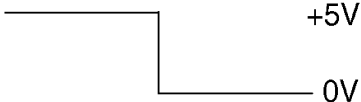


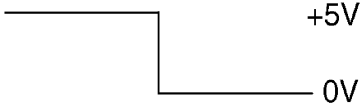


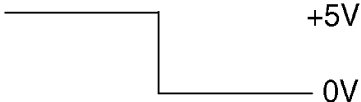
**CN710**

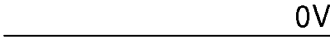
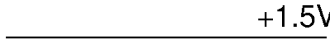
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN710-1	nCASETT	Paper Tray Sensor-1		Paper Tray Detection Signal (1st Feeder) L: Detect
CN710-2	GND	Paper Tray Sensor-1		Ground
CN710-3	LDCST	Paper Tray Sensor-1		Photo Sensor DC Drive Voltage

**CN711**

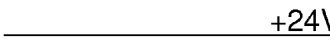
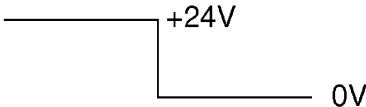
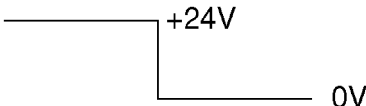
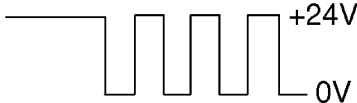
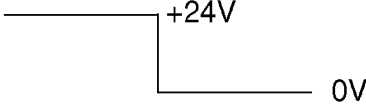
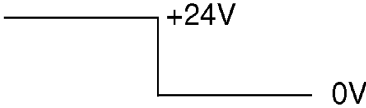

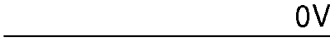
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN711-1	nDUPSEN2	Duplex Sensor2-1		Duplex Unit Paper Detection Signal L: Detect
CN711-2	GND	Duplex Sensor2-2		Ground
CN711-3	LDDUP2	Duplex Sensor2-3		Photo Sensor DC Drive Voltage
CN711-4	nDUPSEN3	Duplex Sensor3-1		Duplex Unit Paper Detection Signal L: Detect
CN711-5	GND	Duplex Sensor3-2		Ground
CN711-6	LDDUP3	Duplex Sensor3-3		Photo Sensor DC Drive Voltage
CN711-7	nDUPSEN4	Duplex Sensor4-1		Duplex Unit Paper Detection Signal L: Detect
CN711-8	GND	Duplex Sensor4-2		Ground
CN711-9	LDDUP4	Duplex Sensor4-3		Photo Sensor DC Drive Voltage
CN711-10	nOPDUP	LPC PCB CN711-11		Duplex Unit Option Detection H: Option Not Installed L: Option Installed
CN711-11	GND	LPC PCB CN711-10		Ground

**CN712**

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN712-1	+5V	SNS PCB-1		+5 VDC Power Supply
CN712-2	nA3SEN	SNS PCB-2		Sheet Bypass Paper Size Detection Signal
CN712-3	GND	SNS PCB-3		Ground
CN712-4	nB4SENS	SNS PCB-4		Sheet Bypass Paper Detection Signal
CN712-5	nMFSEN4	Sheet BypassPaper Length Sensor-1		Sheet Bypass Paper Length Detection Signal
CN712-6	GND	Sheet BypassPaper Length Sensor-2		Ground
CN712-7	LDMF4	Sheet BypassPaper Length Sensor-3		Photo Sensor DC Drive Voltage
CN712-8	nMFPCCK	Sheet Bypass No Paper Sensor-1		Sheet Bypass Paper Detection Signal L: Detect
CN712-9	GND	Sheet Bypass No Paper Sensor-2		Ground
CN712-10	LDMFP	Sheet Bypass No Paper Sensor-3		Photo Sensor DC Drive Voltage
CN712-11	nMFRCHK	Sheet Bypass Bottom Plate Sensor-1		Sheet Bypass Pressure Plate Detection Signal L: Detect

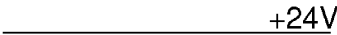

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN712-12	GND	Sheet Bypass Bottom Plate Sensor-2		Ground
CN712-13	LDMFR	Sheet Bypass Bottom Plate Sensor-3		Photo Sensor DC Drive Voltage
CN712-14	N.C.			Not Used

### CN713





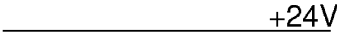

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN713-1	+24VM	HVPS CN39-1		+24 VDC Power Supply
CN713-2	CR0	HVPS CN39-2		Charge Control DC Output
CN713-3	CR1	HVPS CN39-3		Charge Control DC Output
CN713-4	DR0	HVPS CN39-4		Development Control AC+DC Output
CN713-5	TR0	HVPS CN39-5		Transfer Control Cleaning Output
CN713-6	TR1	HVPS CN39-6		Transfer Control Transfer Output
CN713-7	TRCP	HVPS CN39-7		+2.5 VDC Power Supply
CN713-8	MGND	HVPS CN39-8		Ground




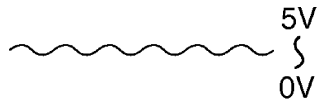
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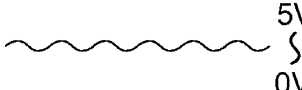
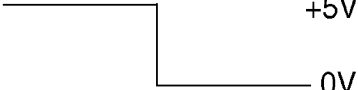


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN714-1	+24VM	Printer Motor 2P-1	 +24V	+24 VDC Power Supply
CN714-2	OPPRST	Printer Motor 2P-2	 0V	Ground

**CN715**

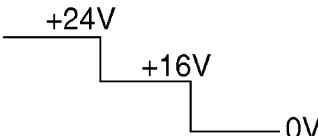


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN715-1	+24VM	Registration Roller Clutch-1	 +24V	+24 VDC Power Supply
CN715-2	nRRCLH	Registration Roller Clutch-4	 +5V 0V	Registration Roller Drive Signal
CN715-3	+24VM	Feed Roller Clutch-1	 +24V	+24 VDC Power Supply
CN715-4	nADF1	Feed Roller Clutch-4	 +5V 0V	Feed Roller Drive Signal
CN715-5	+24VM	Multi Feeder Feed Roller Clutch-1	 +24V	+24 VDC Power Supply
CN715-6	nHDF	Multi Feeder Feed Roller Clutch-4	 +5V 0V	Multi Feeder Feed Roller Drive Signal

**CN716**



LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN716-1	+5V	Thermistor1-1	 +5V	+5 VDC Power Supply
CN716-2	THERM2	Thermistor1-4	 5V 0V	Thermistor Output Signal

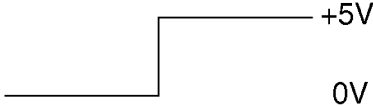
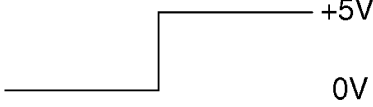

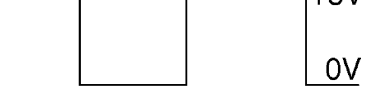




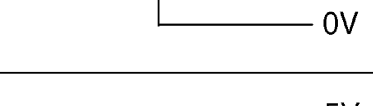
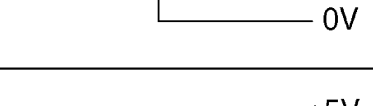
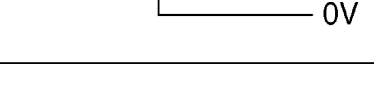
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN716-3	+5V	Thermistor2-1		+5 VDC Power Supply
CN716-4	THERM	Thermistor2-4		Thermistor Output Signal
CN716-5	nESEN	Paper Exit Sensor-1		Inner Under Tray Paper Exit Signal
CN716-6	GND	Paper Exit Sensor-2		Ground
CN716-7	LDESEN	Paper Exit Sensor-3		Photo Sensor DC Drive Voltage

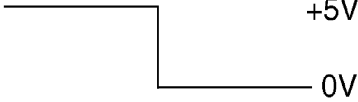
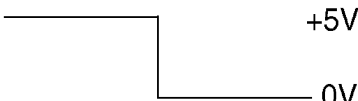

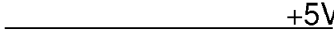
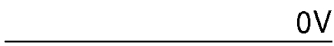
#### CN717

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN717-1	+24VDR	Fan-1		Fan Control Signal 24V/16V
CN717-2	MGND	Fan-3		Ground
CN717-3	nFNRDT	Fan-2		Fan Ready Signal H: Not Ready L: Ready




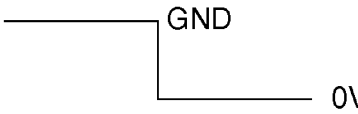
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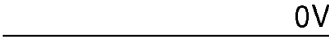
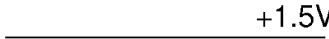
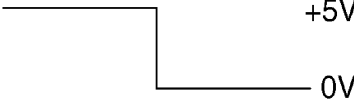



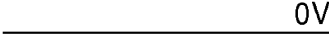
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN718-1	+24VM	EXFD PCB CN790-1		+24 VDC Power Supply
CN718-2	MGND	EXFD PCB CN790-2		Ground

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN718-3	pVREF1	EXFD PCB CN790-3		Transport Unit Motor Current Setup Signal
CN718-4	pVREF2	EXFD PCB CN790-4		Transport Unit Motor Current Setup Signal
CN718-5	pTRPMNA	EXFD PCB CN790-5		Transport Unit Motor Signal
CN718-6	pTRPMNB	EXFD PCB CN790-6		Transport Unit Motor Signal
CN718-7	pTRPMDA	EXFD PCB CN790-7		Transport Unit Motor Signal
CN718-8	pTRPMDB	EXFD PCB CN790-8		Transport Unit Motor Signal
CN718-9	pTRPKEP1	EXFD PCB CN790-9		Transport Unit Solenoid Signal
CN718-10	pTRPKEP2	EXFD PCB CN790-10		Transport Unit Solenoid Signal
CN718-11	nTRPSEN1	EXFD PCB CN790-11		Transport Unit Sensor Signal
CN718-12	nTRPSEN2	EXFD PCB CN790-12		Transport Unit Sensor Signal
CN718-13	nTRPSEN3	EXFD PCB CN790-13		Transport Unit Sensor Signal

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN718-14	nTRPSEN4	EXFD PCB CN790-14		Transport Unit Sensor Signal
CN718-15	nTRPJAM	EXFD PCB CN790-15		Transport Unit Open Detection Signal
CN718-16	nOPTRP	EXFD PCB CN790-16		Transport Unit Installed Detection Signal
CN718-17	+5V	EXFD PCB CN790-17		+5 VDC Power Supply
CN718-18	GND	EXFD PCB CN790-18		Ground
CN718-19	N.C.	EXFD PCB CN790-19		Not Used
CN718-20	N.C.	EXFD PCB CN790-20		Not Used

#### CN719

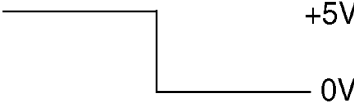


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN719-1	n2WAYKEP1	Paper Stopper Solenoid-1		Paper Stopper Solenoid Signal
CN719-2	+24VM	Paper Stopper Solenoid-2		+24 VDC Power Supply
CN719-3	n2WAYKEP2	Paper Stopper Solenoid-3		Paper Stopper Solenoid Signal
CN719-4	nDUPSEN1	Duplex Sensor1-1		Duplex Sensor1 Signal

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN719-5	GND	Duplex Sensor1-2		Ground
CN719-6	LDDUP1	Duplex Sensor1-3		Photo Sensor DC Drive Voltage
CN719-7	n2WAYSEN	2Way Sensor-1		Inner Upper Tray Paper Exit Signal
CN719-8	GND	2Way Sensor-2		Ground
CN719-9	LD2WAY	2Way Sensor-3		Photo Sensor DC Drive Voltage
CN719-10	nOP2WAY	LPC PCB CN719-11		Dual-Path Exit Guide Unit Detection Signal
CN719-11	GND	LPC PCB CN719-10		Ground

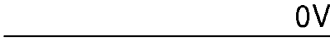
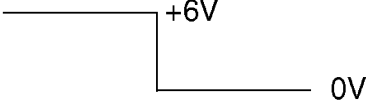
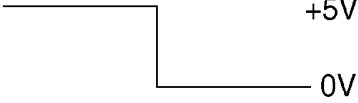
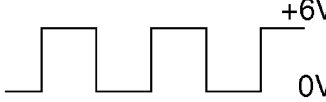
#### CN720

Refer to SC PC Board CN100.

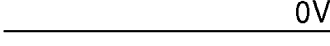
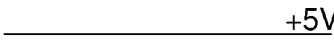
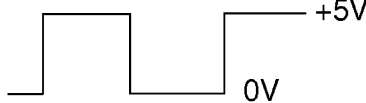
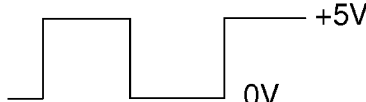


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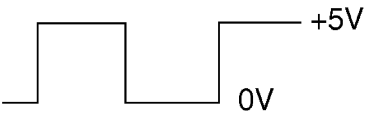
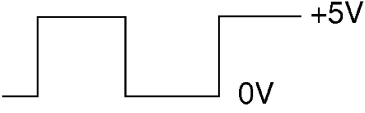
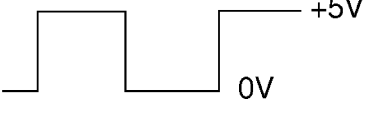
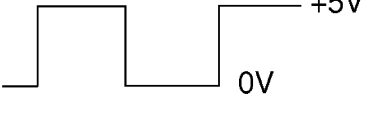
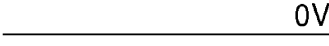
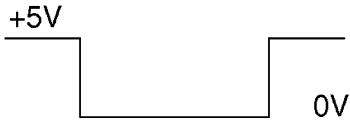

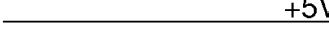
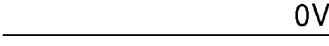
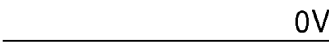
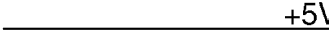
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN721-1	nCARTRIGE	Waste Toner Sensor-1		Waste Toner Box Detection Signal L: Detect
CN721-2	GND	Waste Toner Sensor-2		Ground
CN721-3	LDCRT	Waste Toner Sensor-3		Photo Sensor DC Drive Voltage

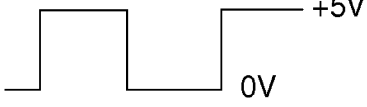
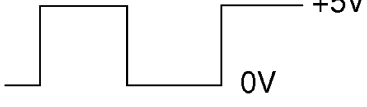
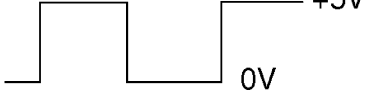





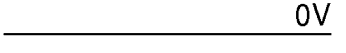
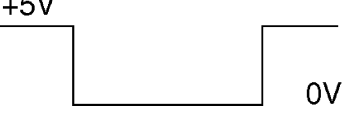
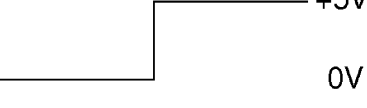
**CN723**

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN723-1	MGND	DC Motor 4P-1		Ground
CN723-2	nMMON	DC Motor 4P-2		Printer Motor Rotation Control Signal
CN723-3	nMMRDY	DC Motor 4P-3		Lift DC Motor Ready Signal
CN723-4	nMMCK	DC Motor 4P-4		Printer Motor Clock



**CN730**

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN730-1	GND	IPC PCB J1-1		Ground
CN730-2	+5V	IPC PCB J1-2		+5 VDC Power Supply
CN730-3	A[0]	IPC PCB J1-3		Address Signal
CN730-4	A[2]	IPC PCB J1-4		Address Signal
CN730-5	A[4]	IPC PCB J1-5		Address Signal
CN730-6	A[6]	IPC PCB J1-6		Address Signal

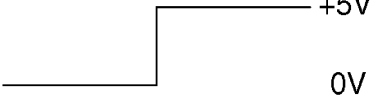

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN730-7	D[0]	IPC PCB J1-7		Data Signal
CN730-8	D[2]	IPC PCB J1-8		Data Signal
CN730-9	D[4]	IPC PCB J1-9		Data Signal
CN730-10	D[6]	IPC PCB J1-10		Data Signal
CN730-11	GND	IPC PCB J1-11		Ground
CN730-12	nWR	IPC PCB J1-12		Light Pulse
CN730-13	CS	IPC PCB J1-13		Chip Select Signal
CN730-14	+5V	IPC PCB J1-14		+5 VDC Power Supply
CN730-15	GND	IPC PCB J1-15		Ground
CN730-16	GND	IPC PCB J1-16		Ground
CN730-17	+5V	IPC PCB J1-17		+5 VDC Power Supply

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN730-18	A[1]	IPC PCB J1-18		Address Signal
CN730-19	A[3]	IPC PCB J1-19		Address Signal
CN730-20	A[5]	IPC PCB J1-20		Address Signal
CN730-21	A[7]	IPC PCB J1-21		Address Signal
CN730-22	D[1]	IPC PCB J1-22		Data Signal
CN730-23	D[3]	IPC PCB J1-23		Data Signal
CN730-24	D[5]	IPC PCB J1-24		Data Signal
CN730-25	D[7]	IPC PCB J1-25		Data Signal
CN730-26	GND	IPC PCB J1-26		Ground
CN730-27	nRD	IPC PCB J1-27		Read Pulse
CN730-28	nRST	IPC PCB J1-28		IPC PC Board Reset Signal


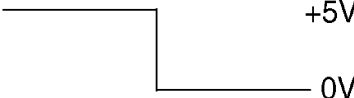


LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN730-29	+5V	IPC PCB J1-29		+5 VDC Power Supply
CN730-30	GND	IPC PCB J1-30		Ground


#### CN731

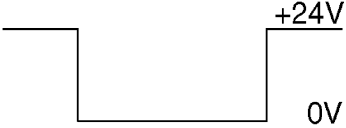
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN731-1	+5V	Option LVPS CN66-1		+5 VDC Power Supply
CN731-2	GND	Option LVPS CN66-2		Ground

#### CN732

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN732-1	N.C.	HTC PCB CN768-1		Not Used
CN732-2	N.C.	HTC PCB CN768-2		Not Used
CN732-3	+5V	HTC PCB CN768-3		+5 VDC Power Supply
CN732-4	nSSR	HTC PCB CN768-4		Heater Control Signal

#### CN733 (For DP-3000)

LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN733-1	+24VM	OPC CLUTCH 1		+24 VDC Power Supply

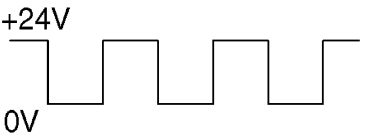
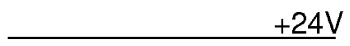
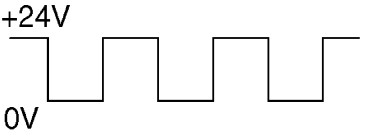
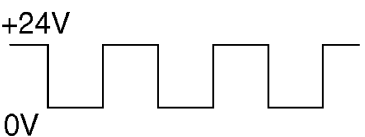
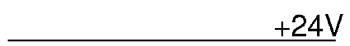
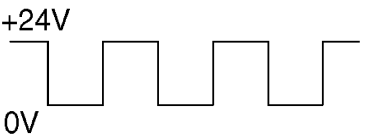
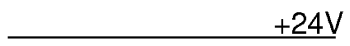
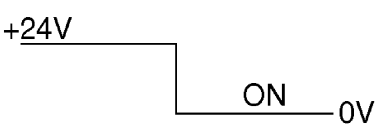
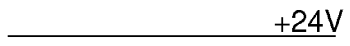
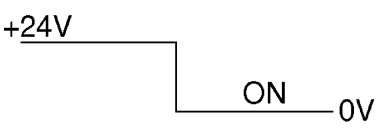
LPC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN733-2	nOPCCLH	OPC CLUTCH 4		OPC Clutch Control Signal

### 3.13. ADF PC Board

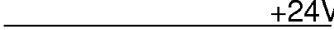
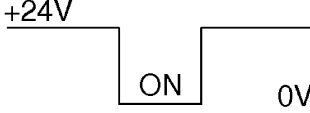
#### CN21

Refer to SCN PC Board CN3.

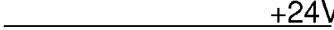
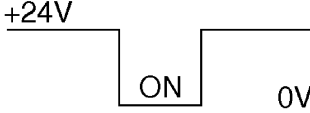
#### CN22

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN22-1	OUTA	ADF Motor-1		Motor Control Signal
CN22-2	+24V	ADF Motor-2		+24 VDC Power Supply
CN22-3	nOUTA	ADF Motor-3		Motor Control Signal
CN22-4	OUTB	ADF Motor-4		Motor Control Signal
CN22-5	+24V	ADF Motor-5		+24 VDC Power Supply
CN22-6	nOUTB	ADF Motor-6		Motor Control Signal
CN22-7	+24VOPF	ADF Roller Clutch-1		+24 VDC Power Supply
CN22-8	nCCLH2	ADF Roller Clutch-2		ADF Roller Clutch Control Signal
CN22-9	+24VOPF	Feed 2 Roller Clutch-1		+24 VDC Power Supply
CN22-10	nCCLH1	Feed 2 Roller Clutch-2		Feed 2 Roller Clutch Control Signal

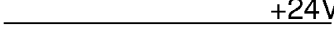
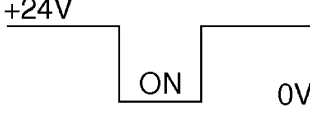
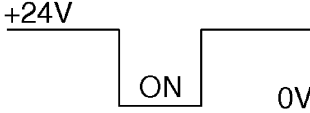

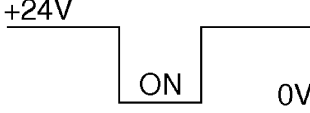
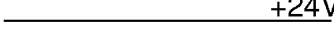
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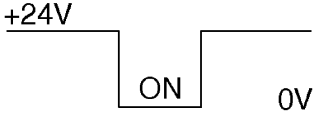
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN24-1	+24VOPF	Inverting Roller Clutch-1		+24 VDC Power Supply
CN24-2	nACLH3	Inverting Roller Clutch-2		Inverting Roller Clutch Control Signal

**CN25**

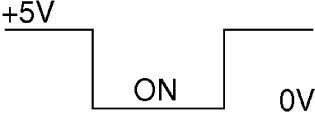

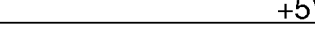
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN25-1	+24VOPF	Stamp Solenoid		+24 VDC Power Supply
CN25-2	nASTAMP	Stamp Solenoid		Stamp Control Signal

**CN26**

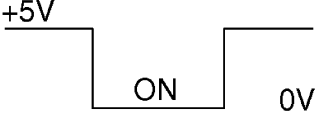

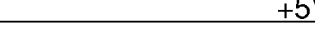


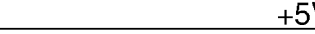
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN26-1	+24VOPF	Release Lever Plate Solenoid		+24 VDC Power Supply
CN26-2	nAPICR	Release Lever Plate Solenoid		Release Lever Plate Solenoid Control Signal
CN26-3	nAKEEP1	Reversing 1 Guide Solenoid		Reversing 1 Guide Solenoid Control Signal
CN26-4	+24VOPF	Reversing 1 Guide Solenoid		+24 VDC Power Supply
CN26-5	nAKEEP2	Reversing 1 Guide Solenoid		Reversing 1 Guide Solenoid Control Signal
CN26-6	+24VOPF	Duplex 2 Guide Solenoid		+24 VDC Power Supply

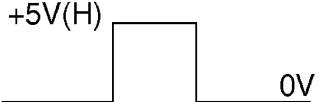
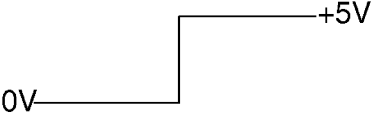

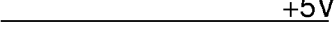
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN26-7	nAPACHG	Duplex 2 Guide Solenoid		Duplex 2 Guide Solenoid Control Signal

#### CN27

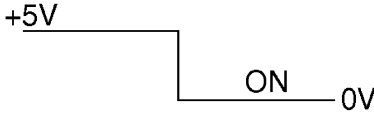

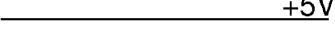
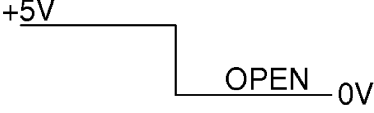

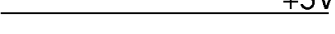
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN27-1	nAAPNT	Original Detection Sensor		Original Detection Signal L: Detect
CN27-2	GND	Original Detection Sensor		Ground
CN27-3	+5VP	Original Detection Sensor		+5 VDC Power Supply

#### CN28

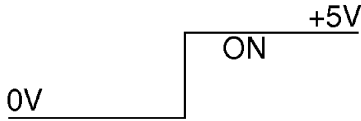
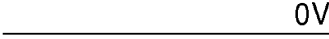
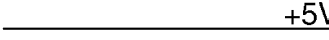
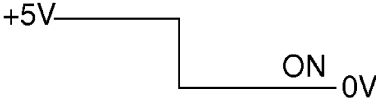
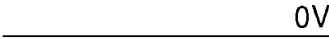
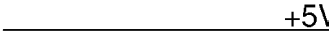
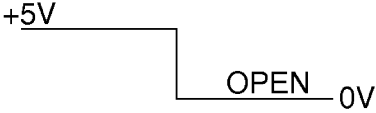

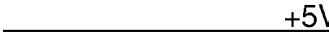
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN28-1	nAADL1	Original Length Sensor1		Original Length Detection Signal L: Detect
CN28-2	GND	Original Length Sensor1		Ground
CN28-3	+5V	Original Length Sensor1		+5 VDC Power Supply
CN28-4	nAADL2	Original Length Sensor2		Original Length Detection Signal L: Detect
CN28-5	GND	Original Length Sensor2		Ground
CN28-6	+5V	Original Length Sensor2		+5 VDC Power Supply

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN28-7	nAB4S	SNS PCB CN41-1		Original Width Detection Signal L: Detect
CN28-8	nAA3S	SNS PCB CN41-2		Original Width Detection Signal L: Detect
CN28-9	GND	SNS PCB CN41-4		Ground
CN28-10	+5V	SNS PCB CN41-3		+5 VDC Power Supply

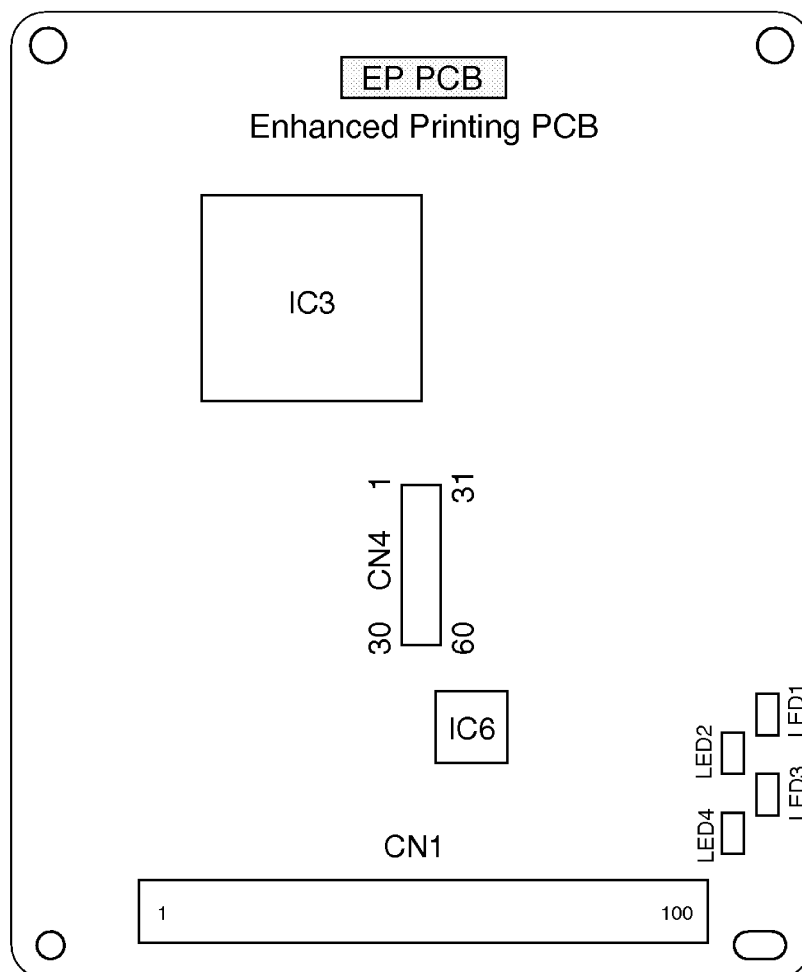
#### CN29

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN29-1	nAB1SN	Read Point Sensor		Read Point Detection Signal L: Detect
CN29-2	GND	Read Point Sensor		Ground
CN29-3	+5V	Read Point Sensor		+5 VDC Power Supply
CN29-4	nAOAC	ADF Cover Open Detection Sensor		ADF Cover Open Detection Signal L: Detect
CN29-5	GND	ADF Cover Open Detection Sensor		Ground
CN29-6	+5V	ADF Cover Open Detection Sensor		+5 VDC Power Supply

## CN30

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN30-1	nAEJC	Eject Sensor		Original Eject Detection Signal L: Detect
CN30-2	GND	Eject Sensor		Ground
CN30-3	+5V	Eject Sensor		+5 VDC Power Supply
CN30-4	nAB2SN	Duplex Eject Sensor		Duplex Eject Detection Signal L: Detect
CN30-5	GND	Duplex Eject Sensor		Ground
CN30-6	+5V	Duplex Eject Sensor		+5 VDC Power Supply
CN30-7	nAREV	ADF Exit Cover Sensor		ADF Exit Cover Open Detection Signal L: Detect
CN30-8	GND	ADF Exit Cover Sensor		Ground
CN30-9	+5V	ADF Exit Cover Sensor		+5 VDC Power Supply

### 3.14. EP PC Board



	LED 1	LED 2	LED 3	LED 4
<b>Status 1</b>	Off	On	Off	On
<b>Status 2</b>	Off	Off	On	On
<b>Status 3</b>	On	Off	On	On
<b>Status 4</b>	On	On	Off	On
<b>Status 5</b>	On	Off	Off	Off

Status 1 : Receiving Printer data from the Ethernet  
 Status 2 & 3 : Converting the PCL data into rasterized image data  
 Status 4 : Printing the rasterized image data  
 Status 5 : Standby Mode

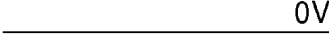

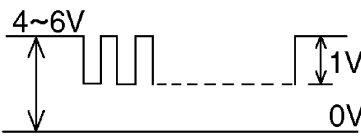
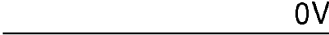

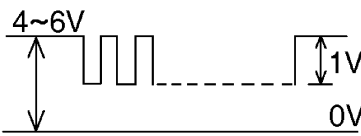
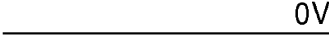
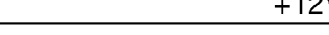
#### CN1

Refer to SC PC Board CN121.

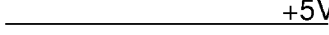




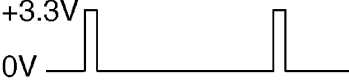
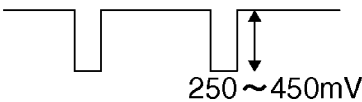
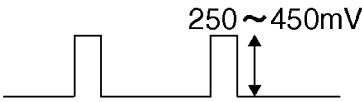
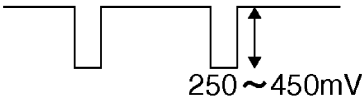
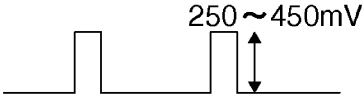
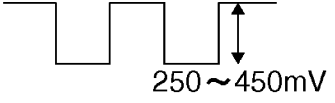
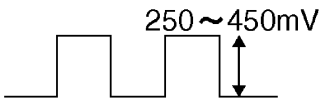
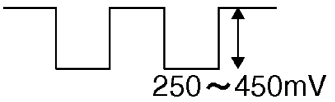
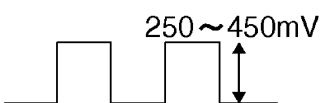
### 3.15. CONS PC Board (For DP-3000 Only)

#### CN55

CONS PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-9	AGND	CONS PCB CN57-9		Ground
CN106-10	AGND	CONS PCB DCN57-10		Ground
CN106-12	VOUT2	CONS PCB CN57-12		Graphic Data Output
CN106-11	AGND	CONS PCB CN57-11		Ground
CN106-13	AGND	CONS PCB CN57-13		Ground
CN106-14	VOUT1	CONS PCB CN57-14		Graphic Data Output
CN106-16	AGND	CONS PCB CN57-16		Ground
CN106-15	+12V	CONS PCB CN57-15		+12 VDC Power Supply

#### CN56

CONS PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN56-1	+5V	CCD PCB CN57-1		+5 VDC Power Supply
CN56-2	GND	CCD PCB CN57-2		Ground

CONS PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN56-3	GND	CCD PCB CN57-3	 0V	Ground
CN56-4	PHYTG	CCD PCB CN57-4		Transfer Gate Clock
CN56-5	nPHYR	CCD PCB CN57-5		Reset Gate Clock
CN56-6	pPHYR	CCD PCB CN57-6		Reset Gate Clock
CN56-7	nPHYCP	CCD PCB CN57-7		Clamp Clock
CN56-8	pPHYCP	CCD PCB CN57-8		Clamp Clock
CN56-9	pPHY1	CCD PCB CN57-9		Shift Register Clock
CN56-10	nPHY1	CCD PCB DCN57-10		Shift Register Clock
CN56-11	nPHY2	CCD PCB CN57-11		Shift Register Clock
CN56-12	pPHY2	CCD PCB CN57-12		Shift Register Clock

### CN57

Refer to SC PC Board CN106.

### 3.16. CCD PC Board


#### CN51 (For DP-2000/2500)

Refer to SC PC Board CN106.

#### CN51 (For DP-3000)

Refer to CONS PC Board CN55.

#### CN52

CCD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN52-1	FGND	FG	 0V	Ground

#### CN53 (For DP-3000)



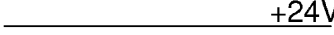
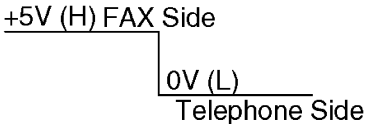
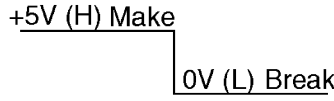

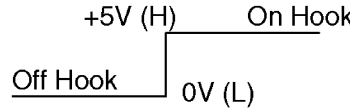
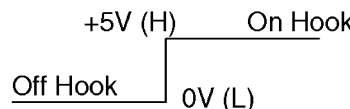
Refer to CONS PC Board CN56.

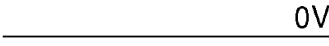
### 3.17. FXB PC Board

#### CN160

Refer to SC PC Board CN122.

#### CN161

FXB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN161-1	(HOK2)	LCU/LCE PCB CN25-1		Not Used
CN161-2	+5V	LCU/LCE PCB CN25-2		+5 VDC Power Supply
CN161-3	GND	LCU/LCE PCB CN25-3		Ground
CN161-4	+24V	LCU/LCE PCB CN25-4		+24 VDC Power Supply
CN161-5	pCMLD	LCU/LCE PCB CN25-5		Line Switching Relay Drive Signal
CN161-6	pPLSD	LCU/LCE PCB CN25-6		Pulse Dial Relay Drive Signal
CN161-7	TURS	LCU/LCE PCB CN25-7		Not Used
CN161-8	nHSDT	LCU/LCE PCB CN25-8		Handset Off-Hook Detection Signal L: Detect
CN161-9	nHKOF	LCU/LCE PCB CN25-9		External Phone Off-Hook Detection Signal
CN161-10	nCTON	LCU/LCE PCB CN25-10	H= Standby Mode, L= Ring in	Ring Detection Signal

FXB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN161-11	HYBSR	LCU/LCE PCB CN25-11		Line Transformer Input Signal
CN161-12	AGND	LCU/LCE PCB CN25-12	 0V	Ground
CN161-13	HYSIG	LCU/LCE PCB CN25-13		Not Used
CN161-14	pTCKD	LCU/LCE PCB CN25-14		Not Used
CN161-15	pEAKD	LCU/LCE PCB CN25-15		Not Used

### **3.18. PRIF PC Board**

#### **CN211**

Refer to SC PC Board CN116.

#### **CN212**

Refer to SC PC Board CN115.

### 3.19. LCU/LCE PC Board

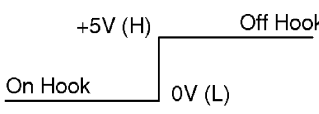
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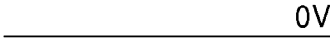
LCU/LCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN20-3	L2(A)	Telephone Line		Line Signal
CN20-4	L1(B)	Telephone Line		Line Signal

#### CN21

LCU/LCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN21-3	T1	External Telephone		Line Signal for the External Telephone
CN21-4	T2	External Telephone		Line Signal for the External Telephone

#### CN23

LCU/LCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN23-1	A1	SRU PCB CN90-1		Switch Hook Signal
CN23-2	N.C.	SRU PCB CN90-2		Not Used
CN23-3	HLIN1	SRU PCB CN90-3		Line Signal for the Fax Handset
CN23-4	HLIN2	SRU PCB CN90-4		Line Signal for the Fax Handset
CN23-5	N.C.	SRU PCB CN90-5		Not Used

LCU/LCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN23-6	A1S	SRU PCB CN90-6		Ground

#### **CN25**

Refer to FXB PC Board CN161.

Refer to G3B PC Board CN132.




### 3.20. SRU PC Board

#### CN90

Refer to LCU/LCE PC Board

#### CN91

SRU PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN91-1	N.C.			Not Used
CN91-2	MIC (+)	Telephone Handset CN		Handset Microphone
CN91-3	RCV (+)	Telephone Handset CN		Handset Receiver
CN91-4	RCV (-)	Telephone Handset CN		Handset Receiver
CN91-5	MIC (-)	Telephone Handset CN		Handset Microphone
CN91-6	TGND			Ground

### **3.21. LSU PC Board**

#### **CN1**

Refer to SC PC Board CN110.

#### **CN2, CN3**

Refer to LPC PC Board CN701.

### **3.22. SORT PC Board**

#### **CN150**


Refer to SC PC Board CN120.

#### **CN151**


Refer to SC PC Board CN113.

### 3.23. HTC PC Board



#### CN760

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN760-1	AC(L)	AC Switch-2	AC100V 	AC Power Supply



#### CN761

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN761-1	AC(N)	AC Switch-1	AC100V 	AC Power Supply


#### CN762 (For Countries Using 100V Power Supply)


HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN762-1	AC(L)	LVPS CN60-1	AC100V 	AC Power Supply
CN762-2	AC(N)	LVPS CN60-2	AC100V 	AC Power Supply

#### CN762 (For Countries Using 200V Power Supply)



HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN762-1	AC(L)	HCE CN80-1	AC100V 	AC Power Supply
CN762-2	AC(N)	HCE CN80-2	AC100V 	AC Power Supply

#### CN763 (For Countries Using 100V Power Supply)

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN763-1	AC(L)	OPTION LVPS CN63-1	AC100V 	AC Power Supply

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN763-2	AC(N)	OPTION LVPS CN63-2	 AC100V	AC Power Supply

#### CN764


HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN764-1	AC(L)	Fuser Lamp	 AC100V	AC Power Supply
CN764-2	AC(N)	Thermostat Thermal Fuse	 AC100V	AC Power Supply

#### CN765


Refer to LPC PC Board CN708.

### 3.24. HTC2 PC Board

#### CN766

HTC2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN766-1	AC(N)	AC Switch-1		AC Power Supply

#### CN767

HTC2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN767-1	AC(N)	Fuser Lamp		AC Power Supply
CN767-2	N.C.			Not Used

#### CN768



Refer to LPC PC Board CN732.

### 3.25. HCE PC Board (For 200V only)



#### CN80

Refer to HTC PC Board CN762.

#### CN81

HCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN80-1	AC(L)	LVPS CN60-1	AC100V 	AC Power Supply
CN81-2	AC(N)	LVPS CN60-2	AC100V 	AC Power Supply




#### CN82

HCE PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN81-1	AC(L)	OPTION LVPS CN64-1	AC100V 	AC Power Supply
CN762-2	AC(N)	OPTION LVPS CN64-2	AC100V 	AC Power Supply

### 3.26. HVPS

#### CN39

Refer to LPC PC Board CN713.

Pin No.	Signal Name	Destination	Signal Waveform	Function
HVPS T	FER	Bias Transfer Roller		Transfer Signal (High Voltage)
HVPS C	CHARGE	Bias Charge Roller		Charge Signal (High Voltage)
HVPS D	DEVELOPMENT	Development Roller		Development Signal (High Voltage)



### **3.27. Main LVPS PC Board**

#### **CN60**

Refer to HTC PC Board CN762.

#### **CN61**

Refer to SC PC Board CN101.

#### **CN62**

Refer to LPC PC Board CN702.

### **3.28. Option LVPS PC Board**

#### **CN64**

Refer to HTC PC Board CN763.

#### **CN65**

Refer to Finisher Unit.

#### **CN66**

Refer to LPC PC Board CN731.

### **3.29. ILS PC Board**

#### **CN750**

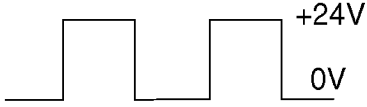
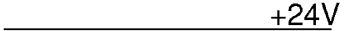
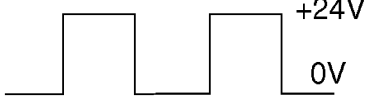
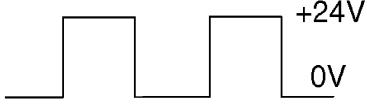
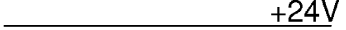
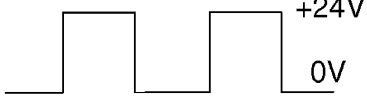
Refer to LPC PC Board CN708.

### 3.30. EXFD PC Board




#### CN790

Refer to LPC PC Board CN718.

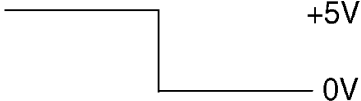


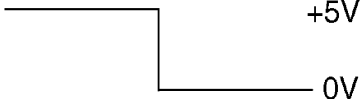


#### CN791

EXFD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN791-1	nMMP0a	Transport Motor	 +24V 0V	Motor Drive Signal
CN791-2	+24VM	Transport Motor	 +24V	+24 VDC Power Supply
CN791-3	pMMP0a	Transport Motor	 +24V 0V	Motor Drive Signal
CN791-4	nMMP2a	Transport Motor	 +24V 0V	Motor Drive Signal
CN791-5	+24VM	Transport Motor	 +24V	+24 VDC Power Supply
CN791-6	pMMP2a	Transport Motor	 +24V 0V	Motor Drive Signal

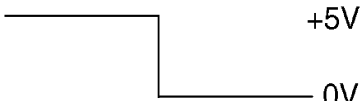


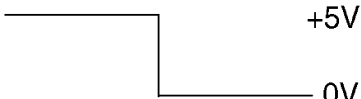
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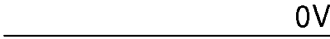
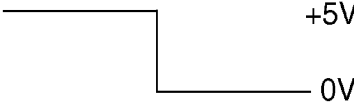
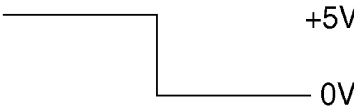


EXFD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN792-1	nKEEP1	Paper Stopper Solenoid-1	 +24V 0V	Paper Stopper Solenoid Signal
CN792-2	+24VM	Paper Stopper Solenoid-2	 +24V	+24 VDC Power Supply
CN792-3	nKEEP2	Paper Stopper Solenoid-3	 +24V 0V	Paper Stopper Solenoid Signal

**CN793**

EXFD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN793-1	nEXDF1	Paper Transport Unit Sensor1-1	 +5V 0V	Paper Transport Unit Paper Detection Signal L: Detect
CN793-2	GND	Paper Transport Unit Sensor1-2	 0V	Ground
CN793-3	LDEX1	Paper Transport Unit Sensor1-3	 +1.5V	Photo Sensor DC Drive Voltage
CN793-4	nEXDF2	Paper Transport Unit Sensor2-1	 +5V 0V	Paper Transport Unit Paper Detection Signal L: Detect
CN793-5	GND	Paper Transport Unit Sensor2-2	 0V	Ground
CN793-6	LDEX2	Paper Transport Unit Sensor2-3	 +1.5V	Photo Sensor DC Drive Voltage

**CN794**

EXFD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN794-1	nEXDF3	Paper Transport Unit Sensor3-1	 +5V 0V	Paper Transport Unit Paper Detection Signal L: Detect
CN794-2	GND	Paper Transport Unit Sensor3-2	 0V	Ground
CN794-3	LDEX3	Paper Transport Unit Sensor3-3	 +1.5V	Photo Sensor DC Drive Voltage
CN794-4	nEXDF4	Paper Transport Unit Sensor4-1	 +5V 0V	Paper Transport Unit Paper Detection Signal L: Detect

EXFD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN794-5	GND	Paper Transport Unit Sensor4-2	 0V	Ground
CN794-6	LDEX4	Paper Transport Unit Sensor4-3	 +5V 0V	Photo Sensor DC Drive Voltage
CN794-7	nDOOR	Door Sensor-1	 +5V 0V	Paper Transport Unit Open Detection Signal L: Detect
CN794-8	GND	Door Sensor-2	 0V	Ground
CN794-9	LDROR	Door Sensor-3	 +1.5V	Photo Sensor DC Drive Voltage

3.31. INV PC Board

CN1

Refer to SCN PC Board CN9.

CN2

INV PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN2-1	HVAC1	LFB CN181-1		INV PC Board/Lamp Signal
CN2-2	HVAC2	LFB CN181-1		INV PC Board/Lamp Signal

### **3.32. IPC PC Board**

**J1**

Refer to LPC PC Board CN730.

**J2**

Refer to Finisher Unit.



### **3.33. SDRM PC Board**

#### **CN1**

Refer to SC PC Board CN107 and CN113.

Refer to SORT PC Board CN151.


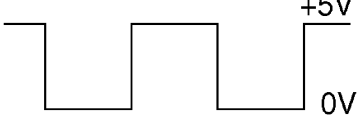

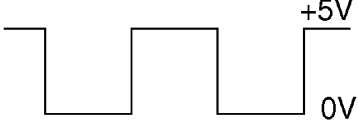




### **3.34. SNS PC Board**

#### **CN41**

Refer to ADF PC Board CN28.

### 3.35. Finisher Unit

#### Finisher Unit

Pin No.	Signal Name	Destination	Signal Waveform	Function
Finisher Unit 1	+24V	OPTION LVPS CN65-1	 +24V	+24 VDC Power Supply
Finisher Unit 2	RXD	IPC PCB J2-1	 +5V 0V	Reception Data Signal
Finisher Unit 3	GND	IPC PCB J2-2	 0V	Ground
Finisher Unit 4	TXD	IPC PCB J2-3	 +5V 0V	Transmission Data Signal
Finisher Unit 5	MGND	OPTION LVPS CN65-2	 0V	Ground
Finisher Unit 6	FGND	FG	 0V	Ground
Finisher Unit 7	GND	IPC PCB J2-4	 0V	Ground
Finisher Unit 8	N.C.			
Finisher Unit 9	N.C.			
Finisher Unit 10	GND	FG	 0V	Ground
Finisher Unit 11	N.C.			
Finisher Unit 12	N.C.			

### 3.36. CST2 PC Board


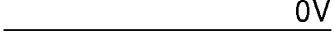
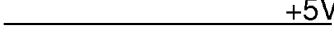

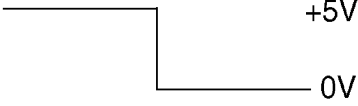
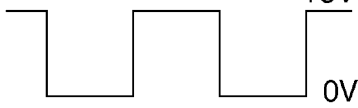
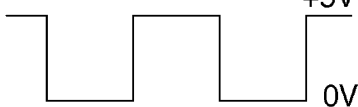
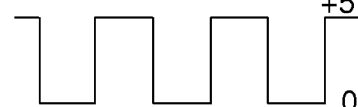


#### CN770

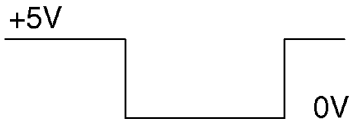
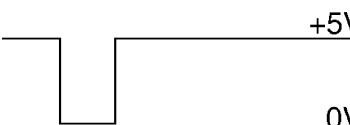
Refer to LPC PC Board CN707.

#### CN771

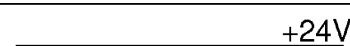

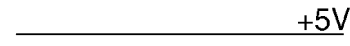
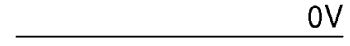
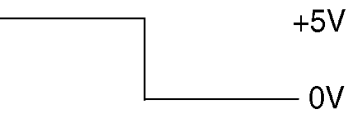
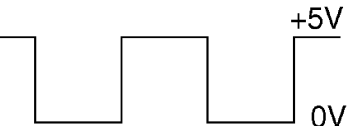
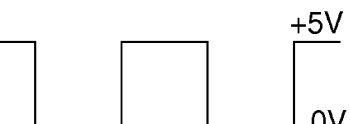
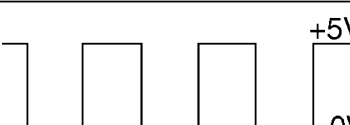
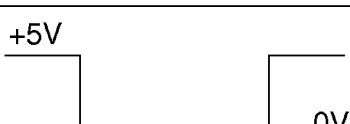
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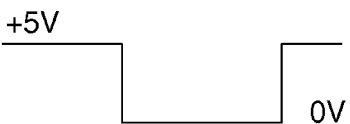

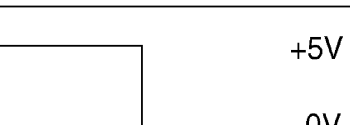
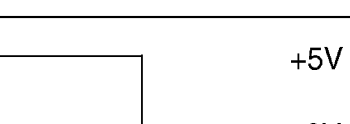
#### CN772 (For DP-2000/2500)

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN772-1	+24VM	CST3 PCB CN807-1		+24 VDC Power Supply
CN772-2	MGND	CST3 PCB CN807-2		Ground
CN772-3	+5V	CST3 PCB CN807-3		+5 VDC Power Supply
CN772-4	GND	CST3 PCB CN807-4		Ground
CN772-5	nOPCMD	CST3 PCB CN807-5		Paper Tray Command Signal
CN772-6	pOP3RST	CST3 PCB CN807-6		Paper Tray Interface Reset Signal
CN772-7	nOPCLK	CST3 PCB CN807-7		Paper Tray Command Status Clock Signal
CN772-8	nOPSTA	CST3 PCB CN807-8		Paper Tray Status Signal
CN772-9	nOPSBSY	CST3 PCB CN807-9		Paper Tray Status Busy Signal H: Status Not Busy L: Status Busy
CN772-10	nOPCBSY	CST3 PCB CN807-10		Paper Tray Command Busy Signal H: Command Not Busy L: Command Busy

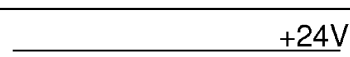

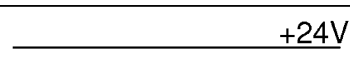

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN772-11	nOPFEDBSY	CST3 PCB CN807-11		Paper Tray Feed Clutch Busy Signal H: Command Not Busy L: Command Busy
CN772-12	nOPFEED	CST3 PCB CN807-12		Paper Tray Feed Clutch Signal

#### CN772 (For DP-3000)

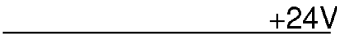

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN772-1	+24VM	CST3 PCB CN807-1		+24 VDC Power Supply
CN772-2	MGND	CST3 PCB CN807-2		Ground
CN772-3	+5V	CST3 PCB CN807-3		+5 VDC Power Supply
CN772-4	GND	CST3 PCB CN807-4		Ground
CN772-5	nOPCMD	CST3 PCB CN807-5		Paper Tray Command Signal
CN772-6	pOP3RST	CST3 PCB CN807-6		Paper Tray Interface Reset Signal
CN772-7	nOPCLK	CST3 PCB CN807-7		Paper Tray Command Status Clock Signal
CN772-8	nOPSTA	CST3 PCB CN807-8		Paper Tray Status Signal
CN772-9	nOPSBSY	CST3 PCB CN807-9		Paper Tray Status Busy Signal H: Status Not Busy L: Status Busy

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN772-10	nOPCBSY	CST3 PCB CN807-10		Paper Tray Command Busy Signal H: Command Not Busy L: Command Busy
CN772-11	nOPFEDBSY	CST3 PCB CN807-11		Paper Tray Feed Clutch Busy Signal H: Command Not Busy L: Command Busy
CN772-12	nOPFEED	CST3 PCB CN807-12		Paper Tray Feed Clutch Signal
CN772-13	nFDPCHK4	CST3 PCB CN807-13		4th Paper Tray Paper Registration Detection Signal L: Detect
CN772-14	nFDPCHK3	CST3 PCB CN807-14		3rd Paper Tray Paper Registration Detection Signal L: Detect

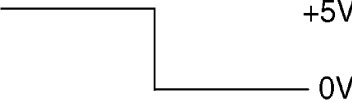
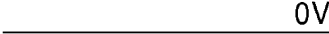

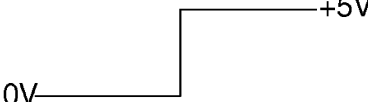
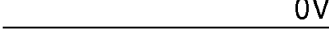
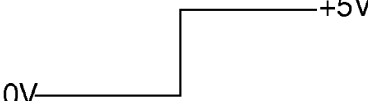
#### CN773

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN773-1	+24VM	Feed Roller Clutch-1		+24 VDC Power Supply
CN773-2	nADF2	Feed Roller Clutch-2		2nd Paper Tray Feed Roller Drive Signal
CN773-3	+24VM	Intermediate Roller Clutch-1		+24 VDC Power Supply
CN773-4	nMRCLH2	Intermediate Roller Clutch-4		2nd Paper Tray Intermediate Roller Clutch Drive Signal
CN773-5	N.C.			

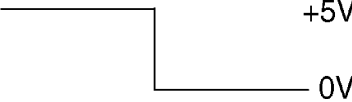
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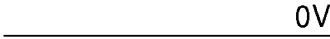

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN774-1	+24VM	Lift DC Motor		+24 VDC Power Supply
CN774-2	nLIFTM2	Lift DC Motor		2nd Paper Tray Lift Motor Drive Signal

**CN775**

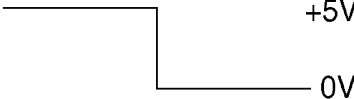

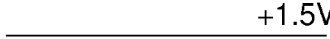
CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN775-1	nPCHK2	NP Sensor-1		2nd Paper Tray Paper Detection Signal L: Detect
CN775-2	GND	NP Sensor-2		Ground
CN775-3	LDSP2	NP Sensor-3		Photo Sensor DC Drive Voltage
CN775-4	nPDOR2	Paper Level Sensor-1		2nd Paper Tray Paper Level Signal L: Detect
CN775-5	GND	Paper Level Sensor-2		Ground
CN775-6	LDPDOR2	Paper Level Sensor-3		Photo Sensor DC Drive Voltage

**CN776**

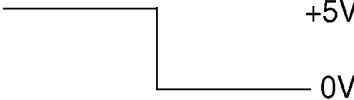


CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN776-1	nFDPCHK2	Registration Sensor-1		2nd Paper Tray Paper Registration Detection Signal L: Detect

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN776-2	GND	Registration Sensor-2	 0V	Ground
CN776-3	LDFPCHK2	Registration Sensor-3	 +1.5V	Photo Sensor DC Drive Voltage

#### CN777

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN777-1	nCST2	Paper Tray Sensor-1	 +5V 0V	2nd Paper Tray Detection Signal L: Detect
CN777-2	GND	Paper Tray Sensor-2	 0V	Ground
CN777-3	LDFPCHK	Paper Tray Sensor-3	 +1.5V	Photo Sensor DC Drive Voltage

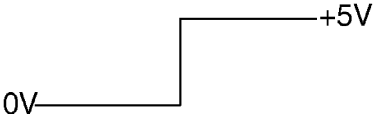


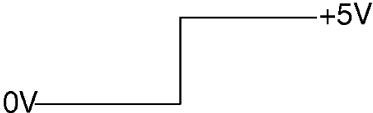

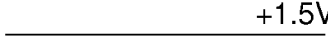
#### CN778

CST2 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN778-1	nJAMDOR	Jam Access Cover Open Detection Sensor-1	 +5V 0V	2nd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN778-2	GND	Jam Access Cover Open Detection Sensor-2	 0V	Ground
CN778-3	LDJAM	Jam Access Cover Open Detection Sensor-3	 +1.5V	Photo Sensor DC Drive Voltage

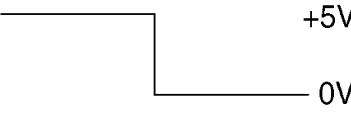

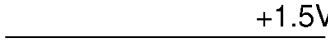


### 3.37. CST3 PC Board

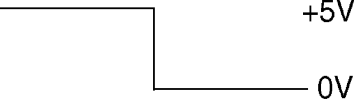


#### CN800

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN800-1	nPCHK3	NP Sensor-1		3rd Paper Tray Paper Detection Signal L: Detect
CN800-2	GND	NP Sensor-2		Ground
CN800-3	LDPHK3	NP Sensor-3		Photo Sensor DC Drive Voltage
CN800-4	nUPLMT3	Paper Level Sensor-1		3rd Paper Tray Paper Level Signal L: Detect
CN800-5	GND	Paper Level Sensor-2		Ground
CN800-6	LDUPL3	Paper Level Sensor-3		Photo Sensor DC Drive Voltage

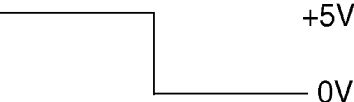
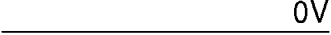

#### CN801

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN801-1	nCST3	Paper Tray Sensor-1		3rd Paper Tray Detection Signal L: Detect
CN801-2	GND	Paper Tray Sensor-2		Ground
CN801-3	LDCST3	Paper Tray Sensor-3		Photo Sensor DC Drive Voltage

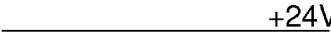
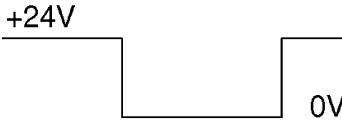
**CN802**

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN802-1	nJAMDOR3	Jam Access Cover Open Detection Sensor-1		3rd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN802-2	GND	Jam Access Cover Open Detection Sensor-2		Ground
CN802-3	LDJAM3	Jam Access Cover Open Detection Sensor-3		Photo Sensor DC Drive Voltage

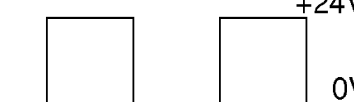
**CN803**


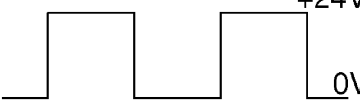
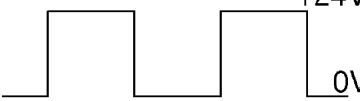

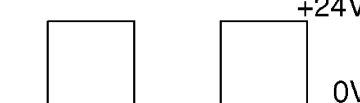
CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN803-1	pFDCHK3	Registration Sensor-1		3rd Paper Tray Registration Signal
CN803-2	GND	Registration Sensor-2		Ground
CN803-3	LDFPCHK3	Registration Sensor-3		Photo Sensor DC Drive Voltage

**CN804**





CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN804-1	+24VM	Lift DC Motor		+24 VDC Power Supply
CN804-2	nLIFTM3	Lift DC Motor		3rd Paper Tray Lift Motor Drive Signal

**CN805**

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN805-1	nMMP0a	Motor		Motor Drive Signal

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN805-2	+24VM	Motor	 +24V	+24 VDC Power Supply
CN805-3	pMMP0a	Motor	 +24V 0V	Motor Drive Signal
CN805-4	nMMP2a	Motor	 +24V 0V	Motor Drive Signal
CN805-5	+24VM	Motor	 +24V	+24 VDC Power Supply
CN805-6	pMMP2a	Motor	 +24V 0V	Motor Drive Signal



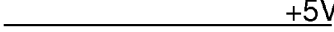

#### CN806

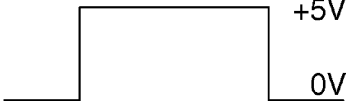


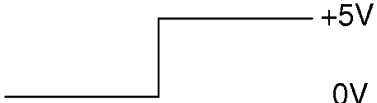

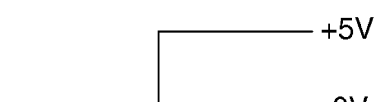




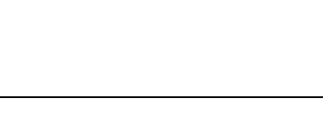
CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN806-1	+24VM	Feed Clutch-1	 +24V	+24 VDC Power Supply
CN806-2	nADF3	Feed Clutch-4	 +24V 0V	3rd Paper Tray Feed Roller Drive Signal
CN806-3	+24VM	Intermediate Roller Clutch-1	 +24V	+24 VDC Power Supply
CN806-4	nMRCLH3	Intermediate Roller Clutch-4	 +24V 0V	3rd Paper Tray Intermediate Roller Clutch Drive Signal
CN806-5	N.C.			

#### CN807



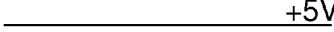

Refer to CST2 PC Board CN772.

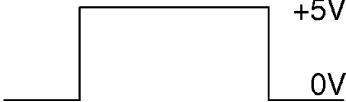


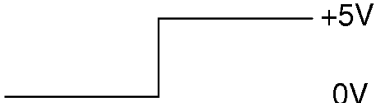

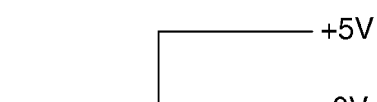




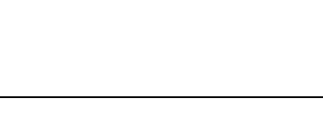
**CN808 (DP-2000/2500)**

<b>CST3 PCB Pin No.</b>	<b>Signal Name</b>	<b>Destination</b>	<b>Signal Waveform</b>	<b>Function</b>
CN808-1	+24VM	CST2 PCB CN770-3		+24 VDC Power Supply
CN808-2	MGND	CST2 PCB CN770-4		Ground
CN808-3	+5V	CST2 PCB CN770-5		+5 VDC Power Supply
CN808-4	GND	CST2 PCB CN770-6		Ground
CN808-5	N.C.	CST2 PCB CN770-7		Not Used
CN808-6	N.C.	CST2 PCB CN770-8		Not Used
CN808-7	N.C.	CST2 PCB CN770-9		Not Used
CN808-8	N.C.	CST2 PCB CN770-10		Not Used
CN808-9	N.C.	CST2 PCB CN770-11		Not Used
CN808-10	N.C.	CST2 PCB CN770-12		Not Used
CN808-11	N.C.	CST2 PCB CN770-13		Not Used
CN808-12	N.C.	CST2 PCB CN770-14		Not Used

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN808-13	pADF	CST2 PCB CN771-1		4th Paper Tray Registration Signal
CN808-14	pMRCLH	CST2 PCB CN771-2		4th Paper Tray Intermediate Roller Clutch Signal H: Detect
CN808-15	pLIFT	CST2 PCB CN771-3		4th Paper Tray Lift Motor Signal
CN808-16	nPCHK	CST2 PCB CN771-4		4th Paper Tray Paper Detection Signal L: Detect
CN808-17	nCST	CST2 PCB CN771-5		4th Paper Tray Detection Signal L: Detect
CN808-18	nUPLIMIT	CST2 PCB CN771-6		4th Paper Tray Paper Level Signal L: Detect
CN808-19	nFDPCHK	CST2 PCB CN771-7		4th Paper Tray Paper Registration Detection Signal L: Detect
CN808-20	nJAMDOR	CST2 PCB CN771-8		4th Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN808-21	nCSTOP	CST2 PCB CN771-9		4th Paper Feed Module Detection Signal
CN808-22	N.C.	CST2 PCB CN771-10		Not Used
CN808-23	+24VM	CST2 PCB CN771-11		+24 VDC Power Supply
CN808-24	MGND	CST2 PCB CN771-12		Ground

**CN808 (DP-3000)**

<b>CST3 PCB Pin No.</b>	<b>Signal Name</b>	<b>Destination</b>	<b>Signal Waveform</b>	<b>Function</b>
CN808-1	+24VM	CST2 PCB CN770-3	 +24V	+24 VDC Power Supply
CN808-2	MGND	CST2 PCB CN770-4	 0V	Ground
CN808-3	+5V	CST2 PCB CN770-5	 +5V	+5 VDC Power Supply
CN808-4	GND	CST2 PCB CN770-6	 0V	Ground
CN808-5	N.C.	CST2 PCB CN770-7		Not Used
CN808-6	N.C.	CST2 PCB CN770-8		Not Used
CN808-7	N.C.	CST2 PCB CN770-9		Not Used
CN808-8	N.C.	CST2 PCB CN770-10		Not Used
CN808-9	N.C.	CST2 PCB CN770-11		Not Used
CN808-10	N.C.	CST2 PCB CN770-12		Not Used
CN808-11	N.C.	CST2 PCB CN770-13		Not Used
CN808-12	N.C.	CST2 PCB CN770-14		Not Used

CST3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN808-13	pADF	CST2 PCB CN771-1		4th Paper Tray Registration Signal
CN808-14	pMRCLH	CST2 PCB CN771-2		4th Paper Tray Intermediate Roller Clutch Signal H: Detect
CN808-15	pLIFT	CST2 PCB CN771-3		4th Paper Tray Lift Motor Signal
CN808-16	nPCHK	CST2 PCB CN771-4		4th Paper Tray Paper Detection Signal L: Detect
CN808-17	nCST	CST2 PCB CN771-5		4th Paper Tray Detection Signal L: Detect
CN808-18	nUPLIMIT	CST2 PCB CN771-6		4th Paper Tray Paper Level Signal L: Detect
CN808-19	nFDPCHK	CST2 PCB CN771-7		4th Paper Tray Paper Registration Detection Signal L: Detect
CN808-20	nJAMDOR	CST2 PCB CN771-8		4th Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN808-21	nCSTOP	CST2 PCB CN771-9		4th Paper Feed Module Detection Signal
CN808-22	N.C.	CST2 PCB CN771-10		Not Used
CN808-23	+24VM	CST2 PCB CN771-11		+24 VDC Power Supply
CN808-24	MGND	CST2 PCB CN771-12		Ground

<b>CST3 PCB Pin No.</b>	<b>Signal Name</b>	<b>Destination</b>	<b>Signal Waveform</b>	<b>Function</b>
CN808-25	N.C.	CST2 PCB CN770-15		Not Used
CN808-26	N.C.	CST2 PCB CN770-16		Not Used

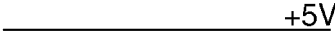
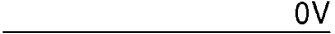

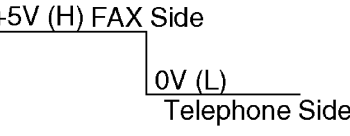
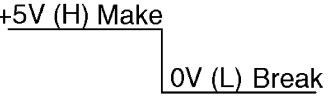

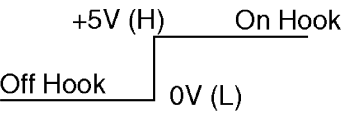
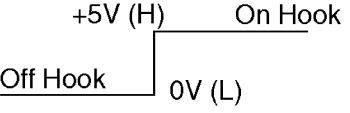



### 3.38. G3B PC Board

#### CN131

Refer to SC PC Board CN123.

#### CN132

G3B PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN132-1	(HOK2)	LCU/LCE PCB CN25-15		Not Used
CN132-2	+5V	LCU/LCE PCB CN25-2		+5 VDC Power Supply
CN132-3	GND	LCU/LCE PCB CN25-3		Ground
CN132-4	+24V	LCU/LCE PCB CN25-4		+24 VDC Power Supply
CN132-5	pCMLD	LCU/LCE PCB CN25-5		Line Switching Relay Drive Signal
CN132-6	pPLSD	LCU/LCE PCB CN25-6		Pulse Dial Relay Drive Signal
CN132-7	TURS	LCU/LCE PCB CN25-7		Not Used
CN132-8	nHSDT	LCU/LCE PCB CN25-8		Handset Off-Hook Detection Signal L: Detect
CN132-9	nHKOF	LCU/LCE PCB CN25-9		External Phone Off-Hook Detection Signal
CN132-10	nCTON	LCU/LCE PCB CN25-10	H= Standby Mode, L= Ring in	Ring Detection Signal
CN132-11	HYBSR	LCU/LCE PCB CN25-11		Line Transformer Input Signal

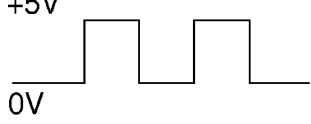
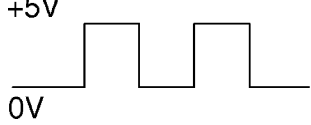
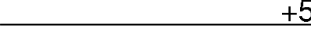
<b>G3B PCB Pin No.</b>	<b>Signal Name</b>	<b>Destination</b>	<b>Signal Waveform</b>	<b>Function</b>
CN132-12	GND	LCU/LCE PCB CN25-12		Ground
CN132-13	HYSIG	LCU/LCE PCB CN25-13		Not Used
CN132-14	pTCKD	LCU/LCE PCB CN25-14		Not Used

### 3.39. LANB PC Board

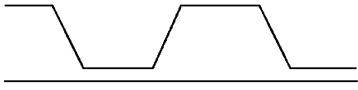
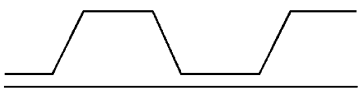
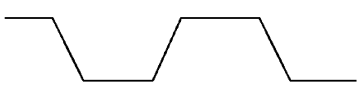
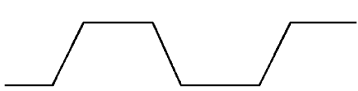
#### CN2

Refer to SC PC Board CN123.

#### CN5

LANB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN5-1	LINK	LANC PCB CN200-1		LANB PCB/ LANC PCB Link Signal
CN5-2	RXD	LANC PCB CN200-2		Reception Data Signal
CN5-3	+5V	LANC PCB CN200-3		+5 VDC Power Supply

#### CN6

LANB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN6-1	RX-	LANC PCB CN200-8		Reception Data "-" Signal
CN6-2	RX+	LANC PCB CN200-7		Reception Data "+" Signal
CN6-3	TX-	LANC PCB CN200-6		Transmission Data "-" Signal
CN6-4	TX+	LANC PCB CN200-5		Transmission Data "+" Signal

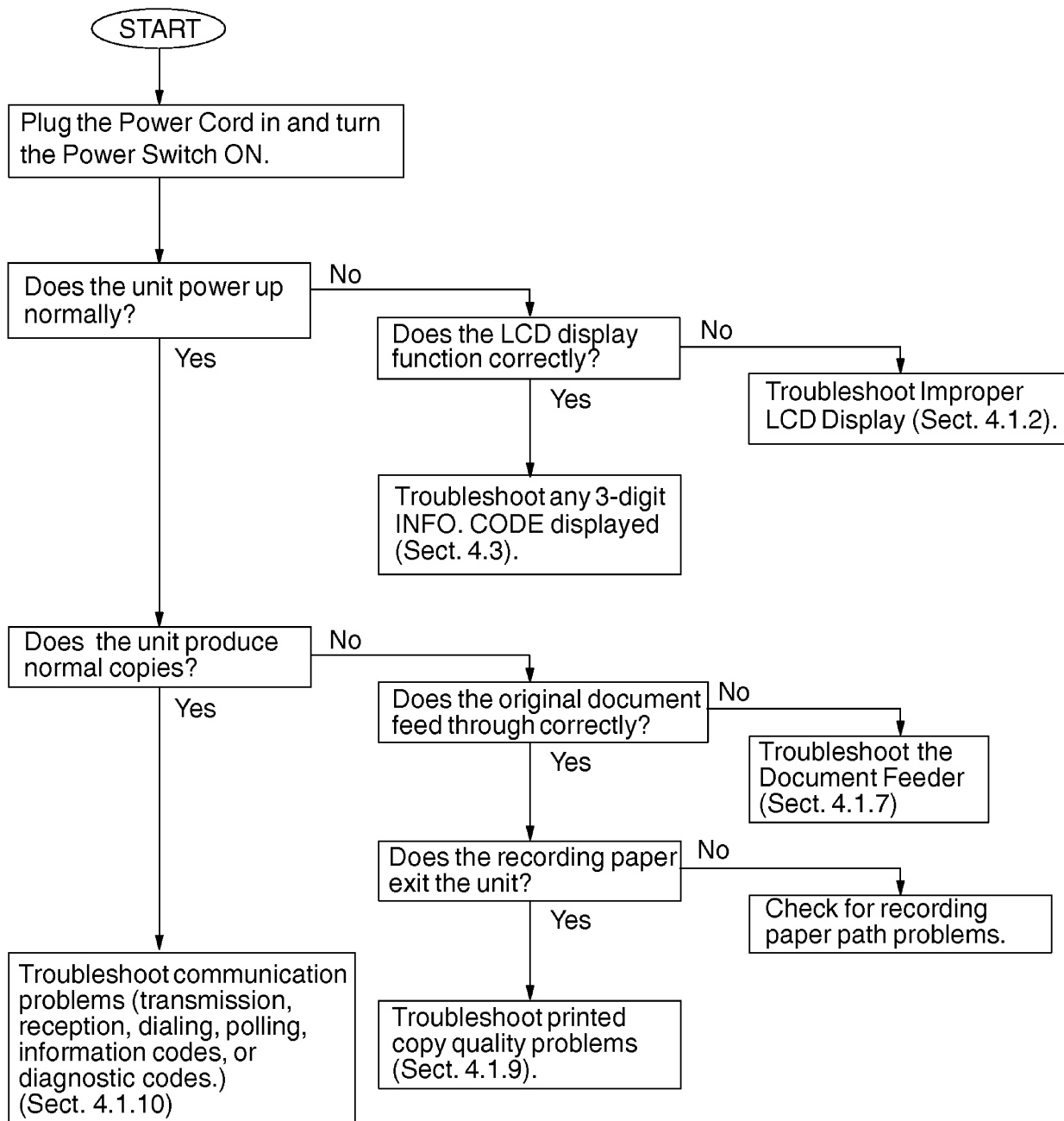
### **3.40. LANC PC Board**

#### **CN200**

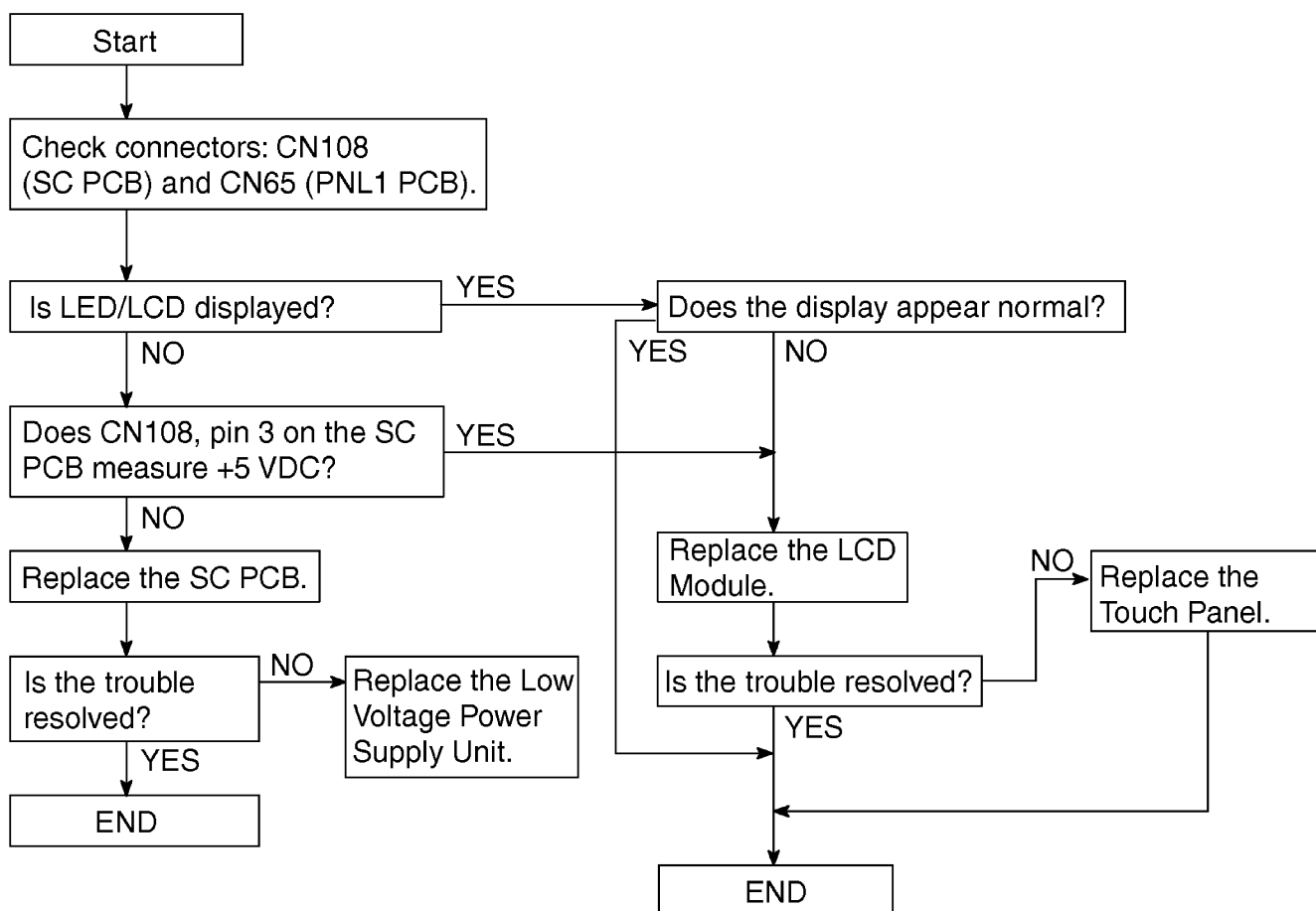
Refer to LANB PC Board CN5 and CN6.

## 4 Troubleshooting

### 4.1. Initial Troubleshooting Flowchart



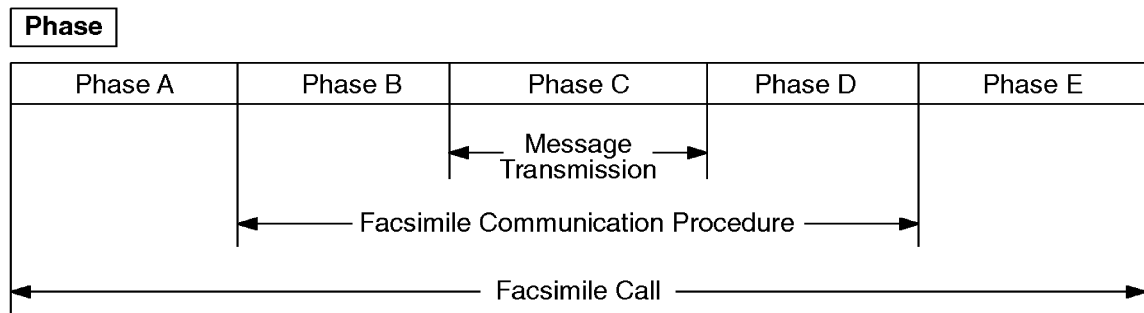
## 4.2. Improper LCD Display



### 4.3. Information Codes (INFO. CODES)

The 3-digit information codes display to show the unit's status. These codes also print on the journal. The following table indicates appropriate sections for troubleshooting.

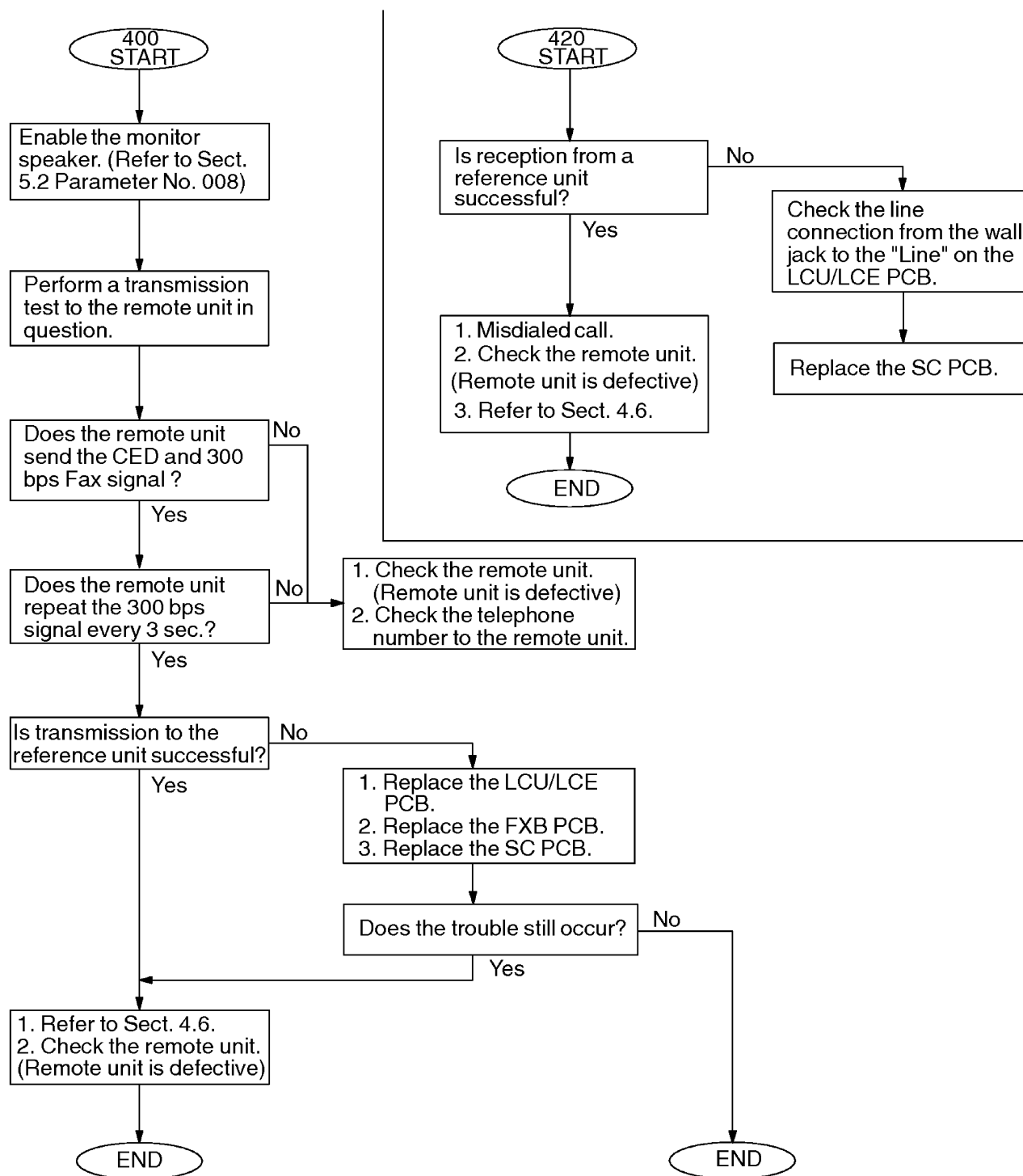
Code	Explanation	Phase	Section
J00-J91 (Except J70/71)	Recording paper jam	C	4.3.8.
- -	No recording paper	B,C	4.3.9.
J70	Document misfeeding	B	4.3.10.
J71	Document too long	C	4.3.10.
400	Transmission error	B	4.3.1.
401	Transmission error	B	4.3.2.
402	Transmission error	B	4.3.2.
403	Polling reception error	B	4.3.12.
404	Transmission error	B	4.3.3.
405	Transmission error	B	4.3.3.
407	Transmission error	D	4.3.3.
408	Transmission error	D	4.3.5.
409	Transmission error	D	4.3.5.
411	Polling reception error	B	4.3.12.
414	Polling reception error	B	4.3.12.
415	Remote side mis-operation	B	4.3.12.
416	Reception error	D	4.3.4.
417	Reception error	C	4.3.5.
418	Reception error	C	4.3.5.
420	Reception error	B	4.3.1.
422	Transmission error	B	4.3.2.
434	Signal noise level too high	B	4.3.6.
459	Reception error	C	4.3.7.
490	Reception error	C	4.3.5.
494	Reception error	C	4.3.7.
495	Reception error	C	4.3.7.
630	Remote unit Busy	B	4.3.11.
634	No busy tone detected	B	--
710 - 726	Internet Communication Problems	--	4.7.5.
800 - 962	Advanced Communication error	--	--



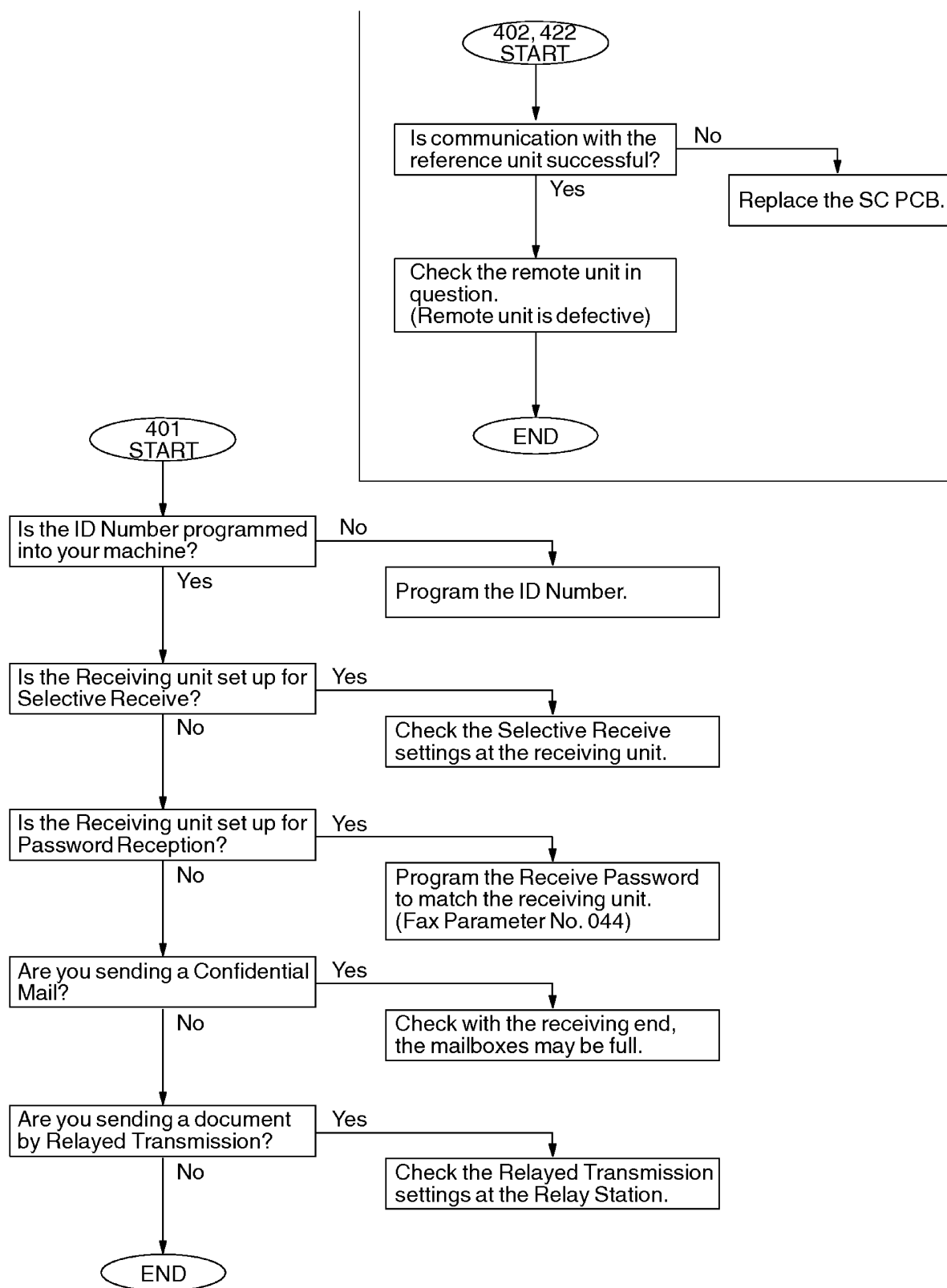
- Phase A : Call establishment
- Phase B : Pre-message procedure
- Phase C : Message transmission
- Phase D : Post-message procedure
- Phase E : Call release



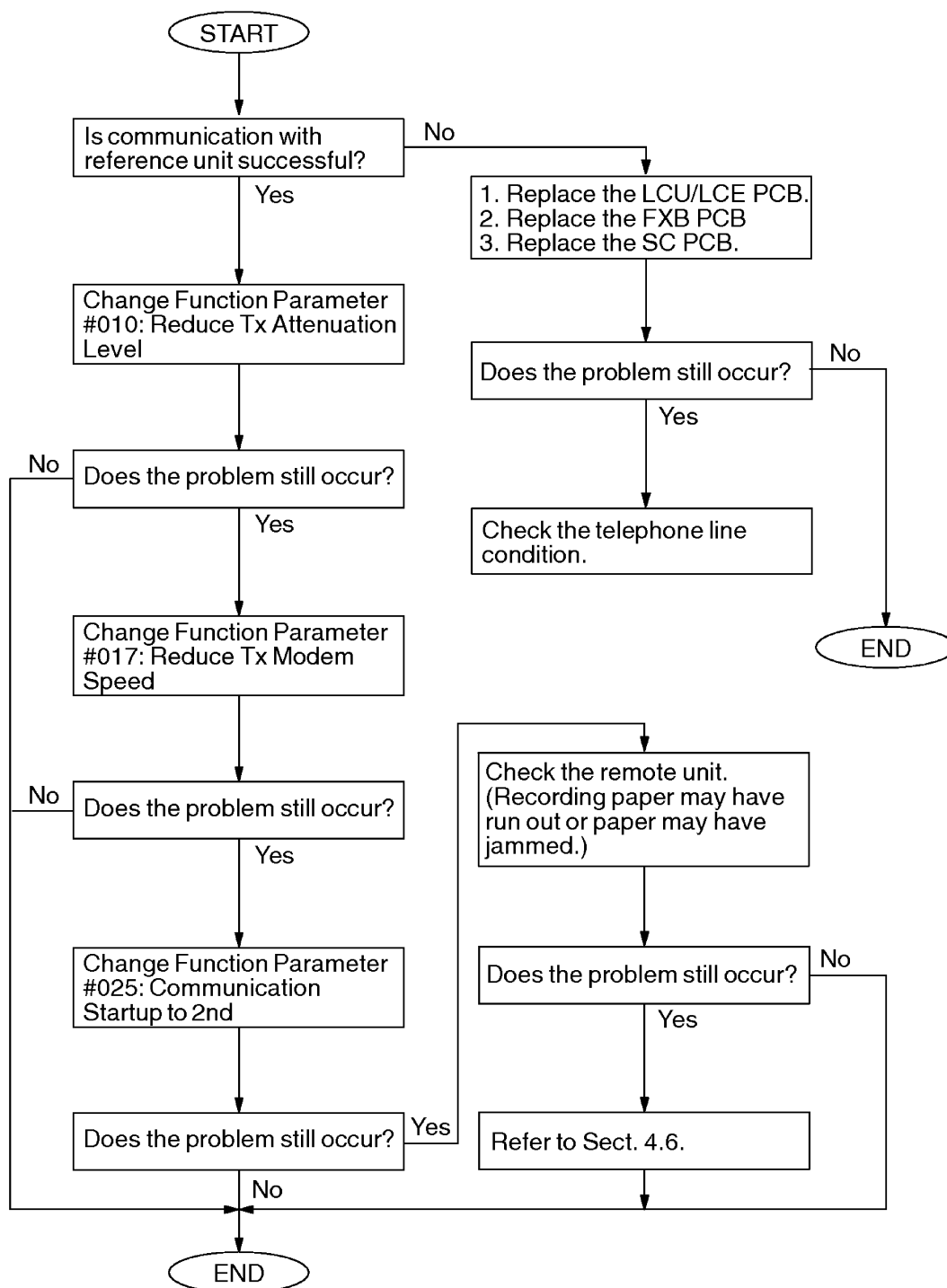
### 4.3.1. Information Codes: 400, 420



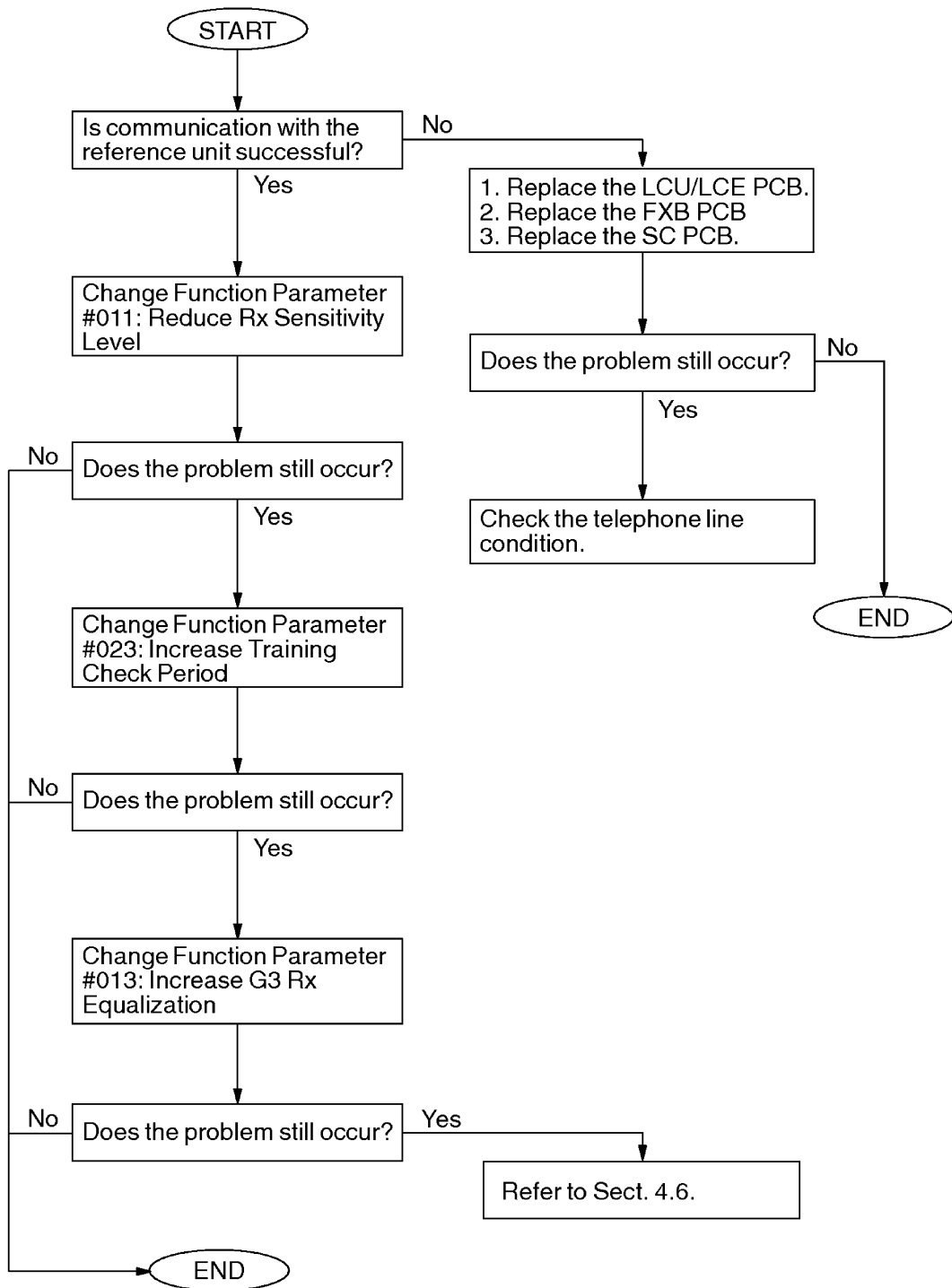
### 4.3.2. Information Codes: 401, 402, 422



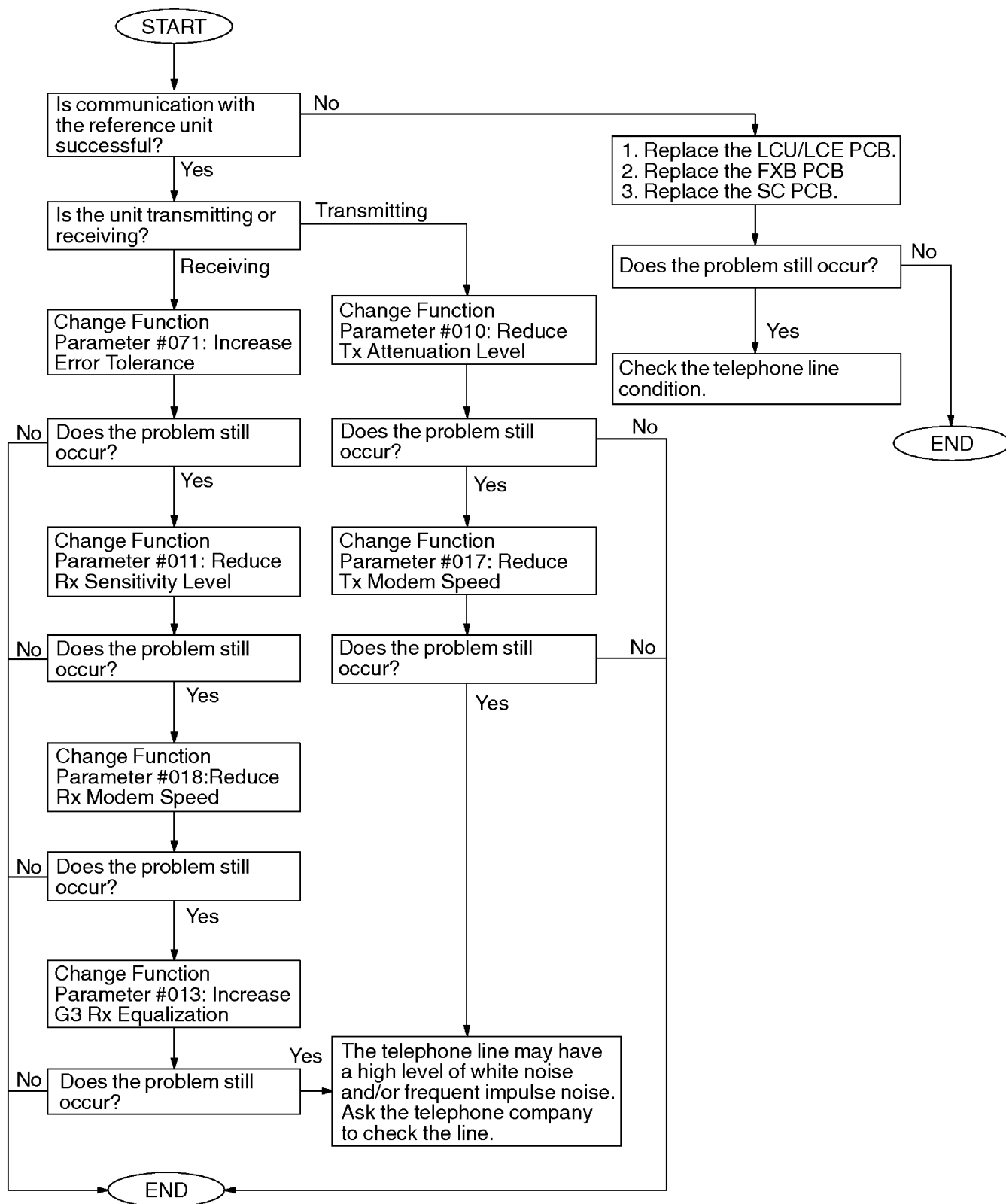
#### 4.3.3. Information Codes: 404, 405, 407



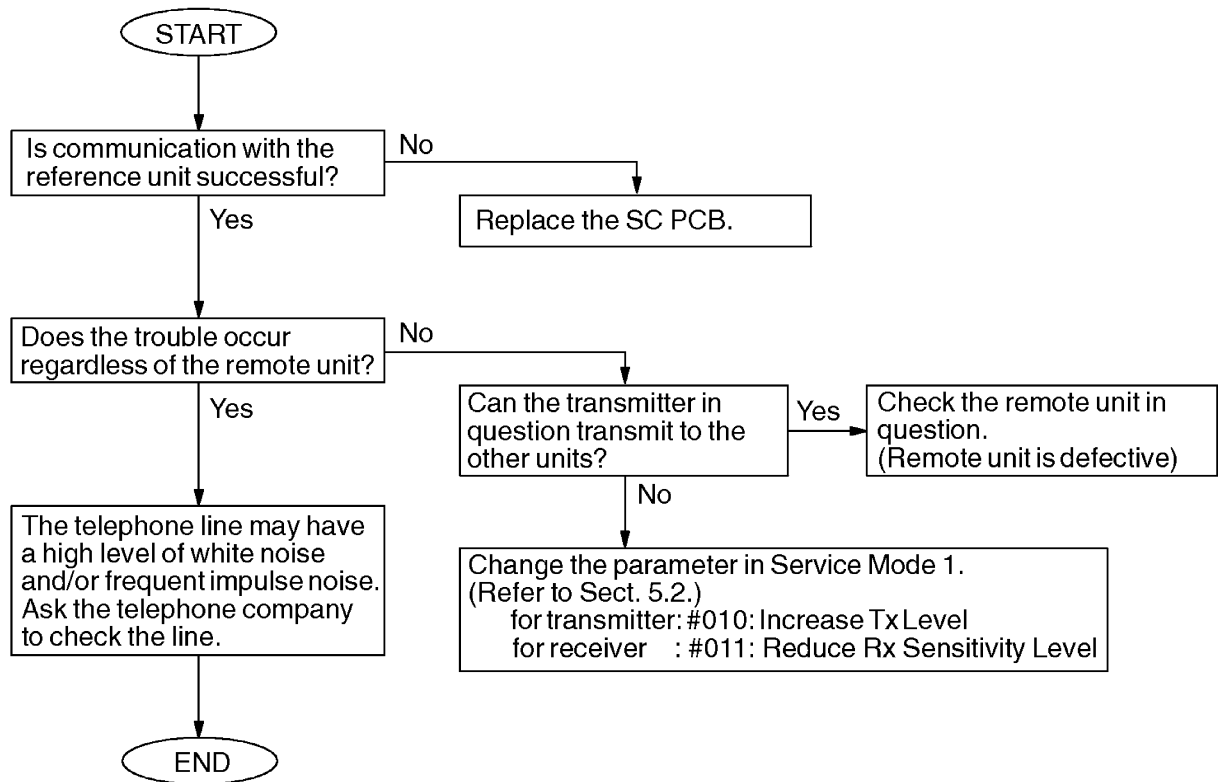
#### 4.3.4. Information Code: 416



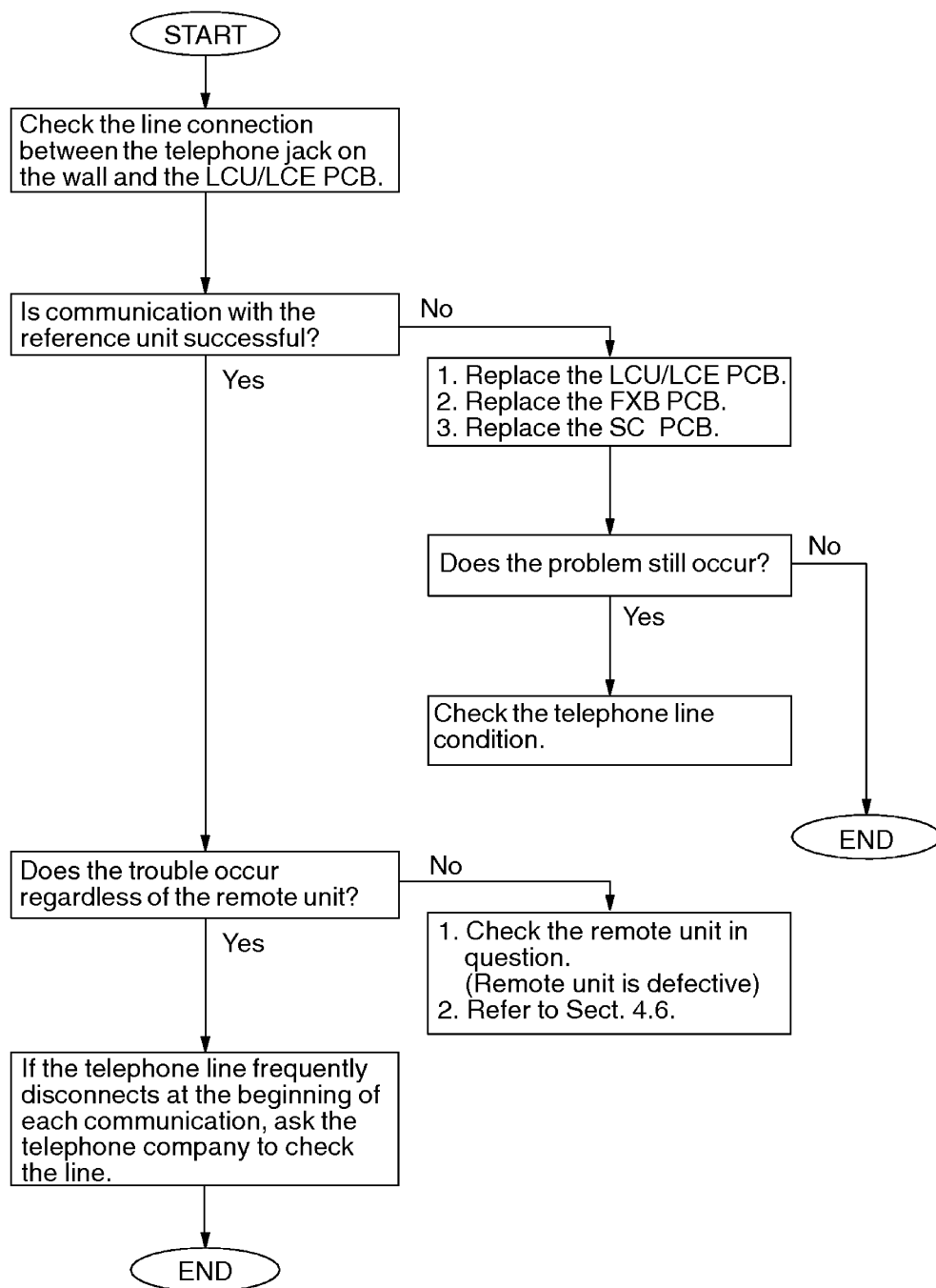
#### 4.3.5. Information Codes: 408, 409, 417, 418, 490



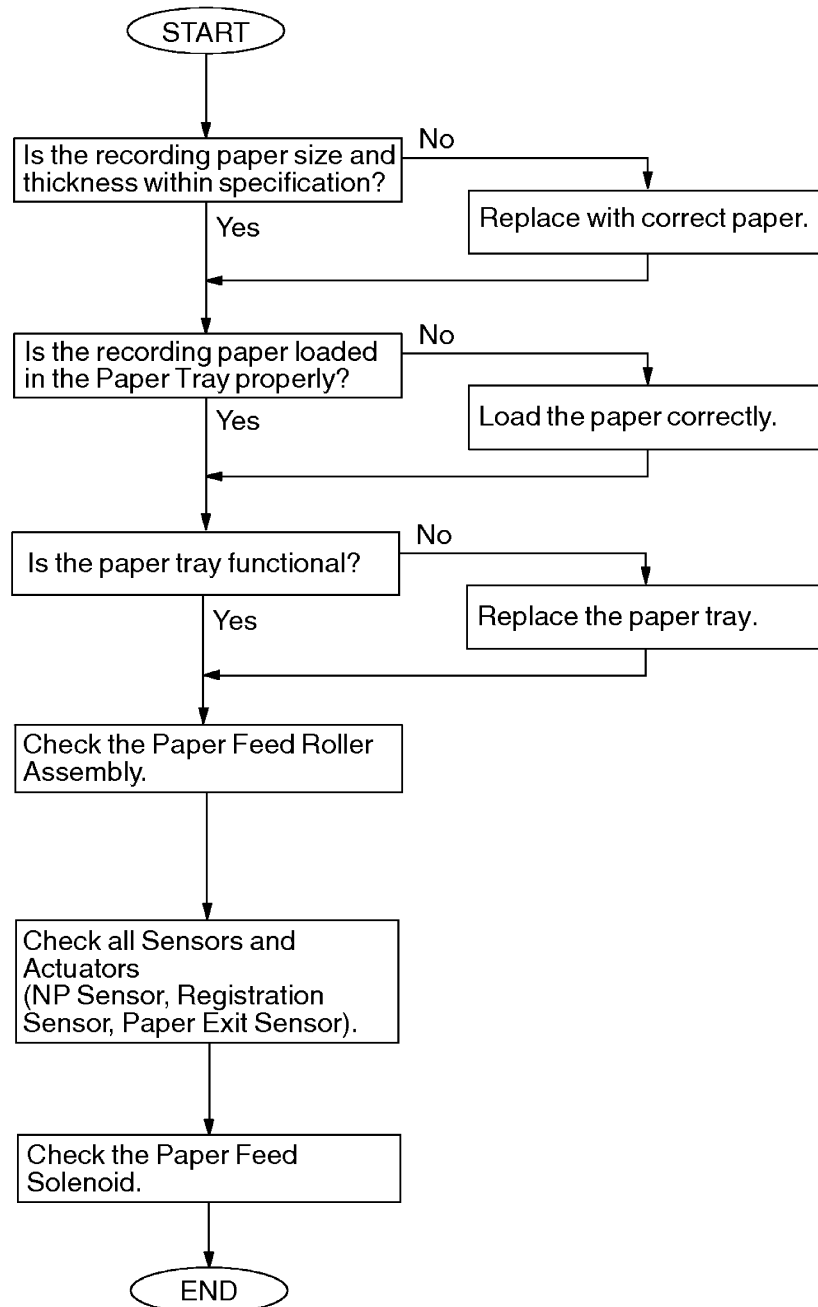
#### 4.3.6. Information Code: 434



#### 4.3.7. Information Codes: 459, 494, 495

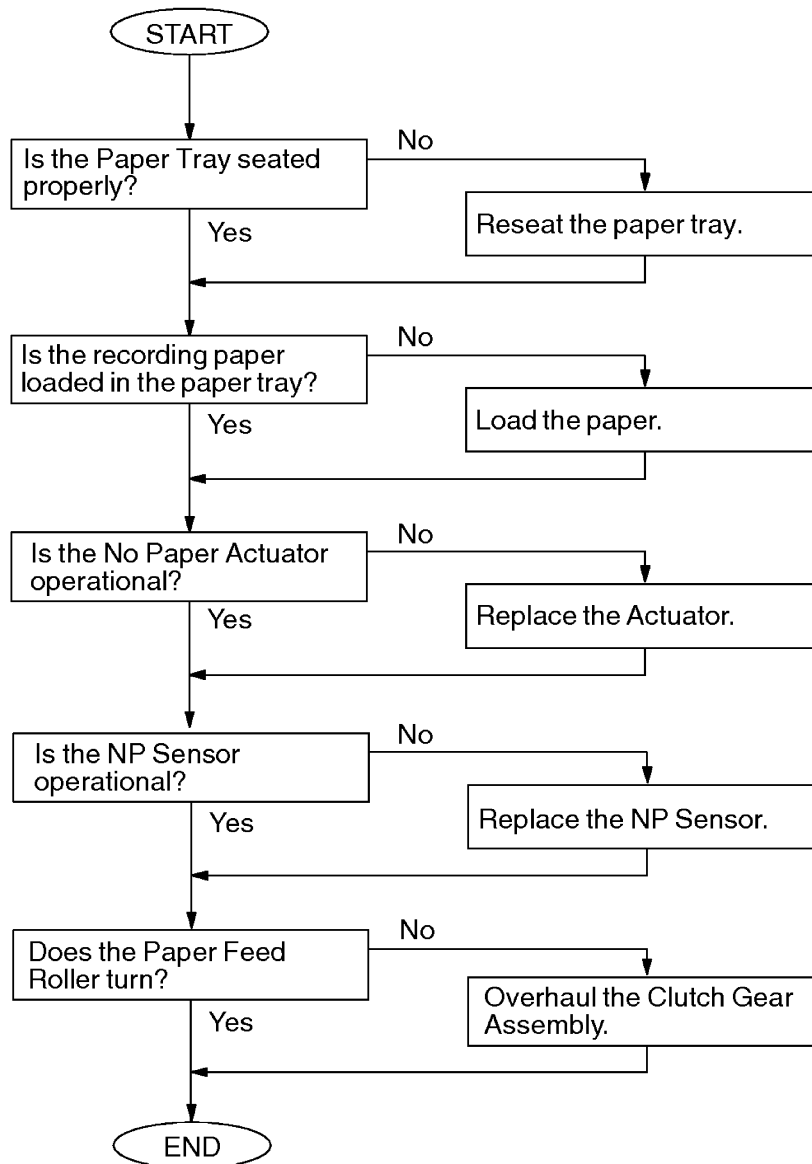


#### 4.3.8. Information Codes: J00 - J91 (Except J70/J71) (Recording Paper Jam)

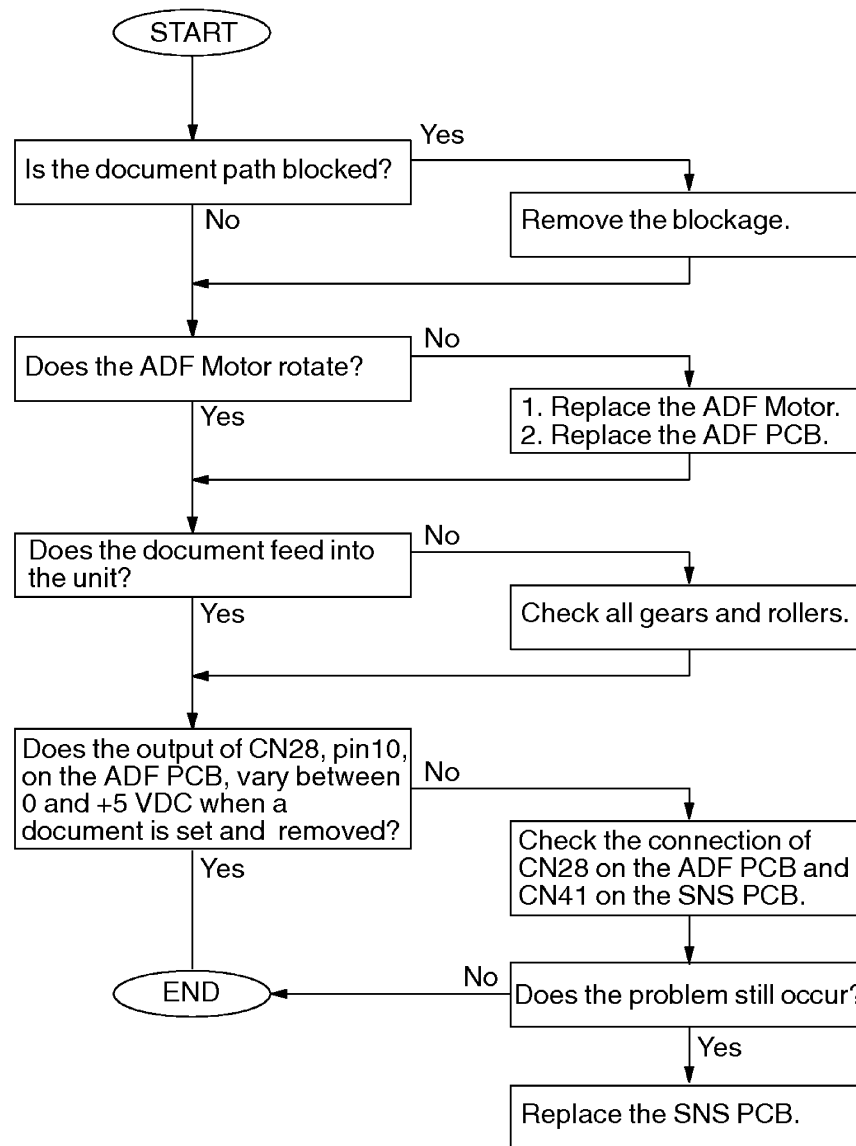




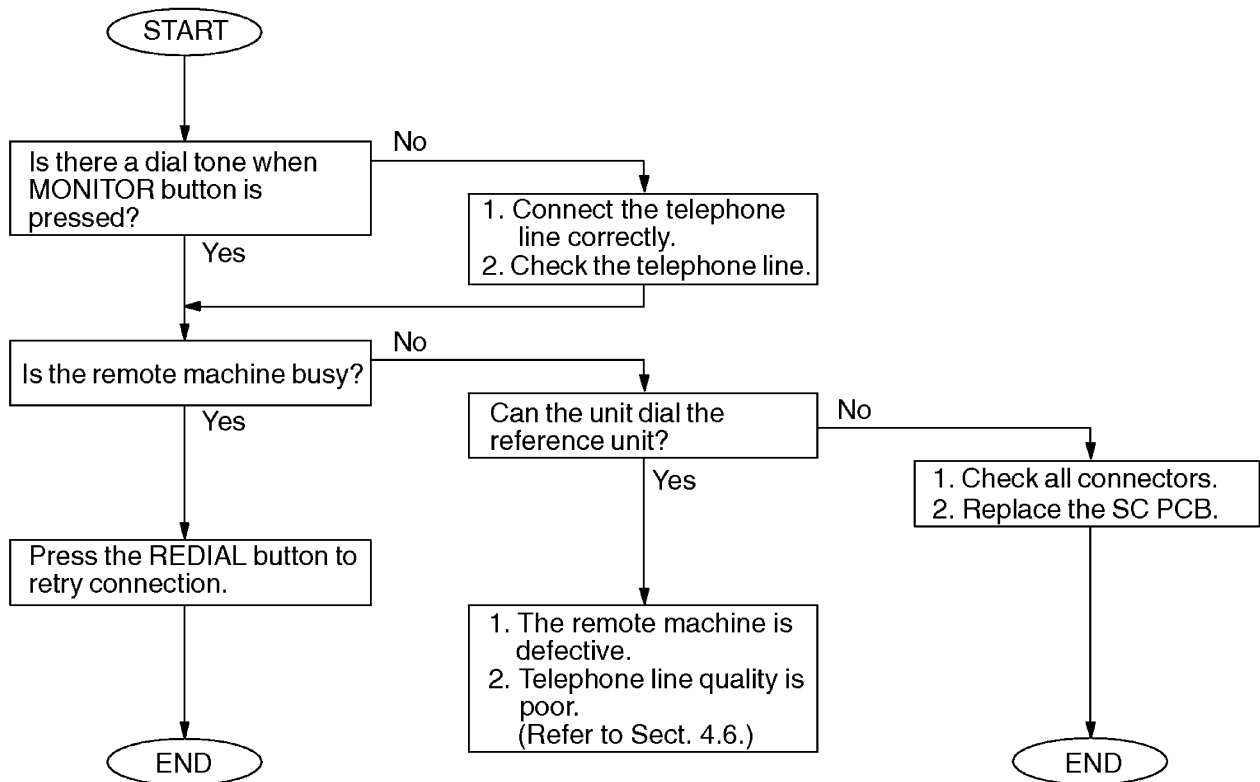
#### 4.3.9. Information Code: N/A (No Recording Paper)



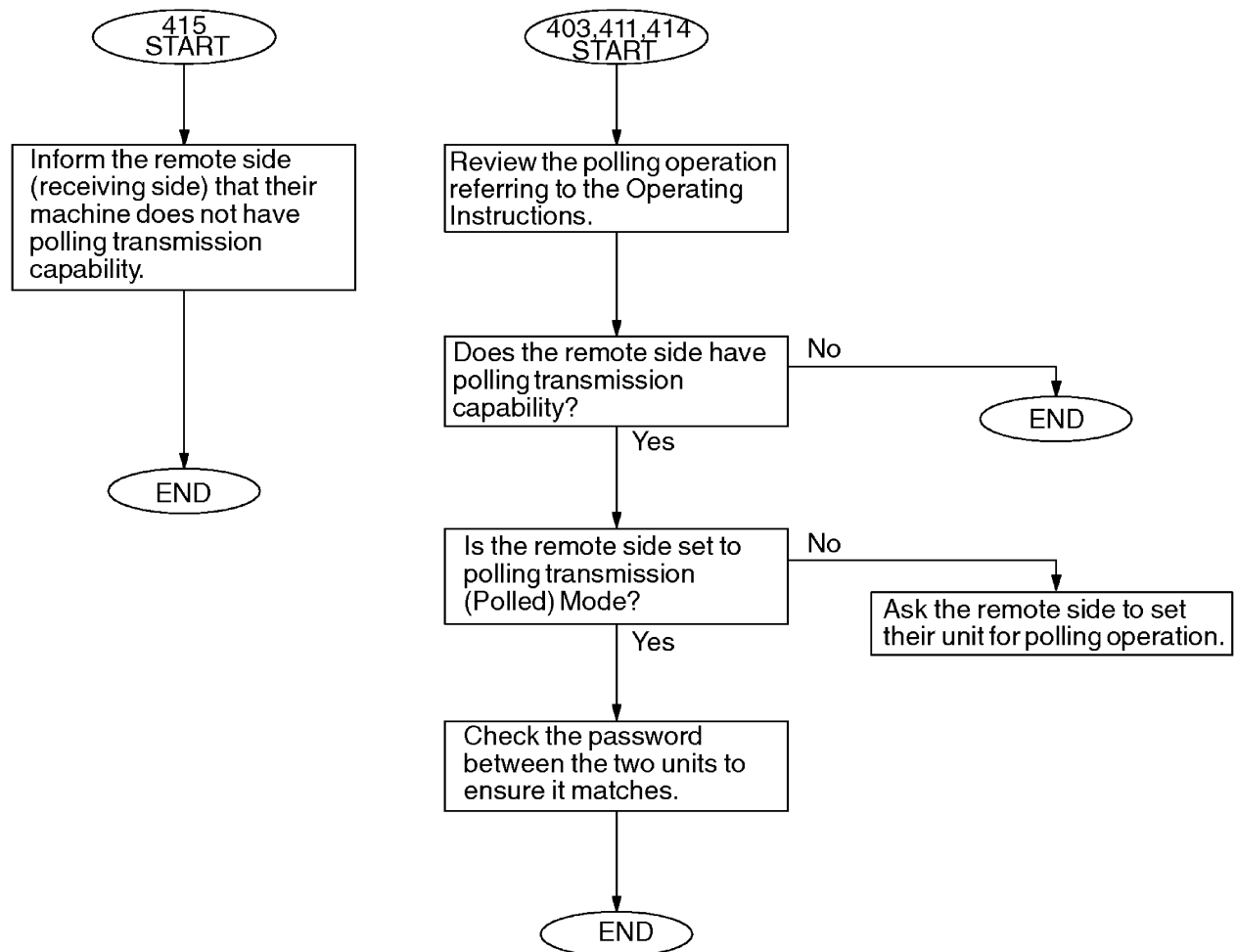
#### 4.3.10. Information Codes: J70, J71 (Document Jam)



#### 4.3.11. Information Code: 630 (Dialing Error)



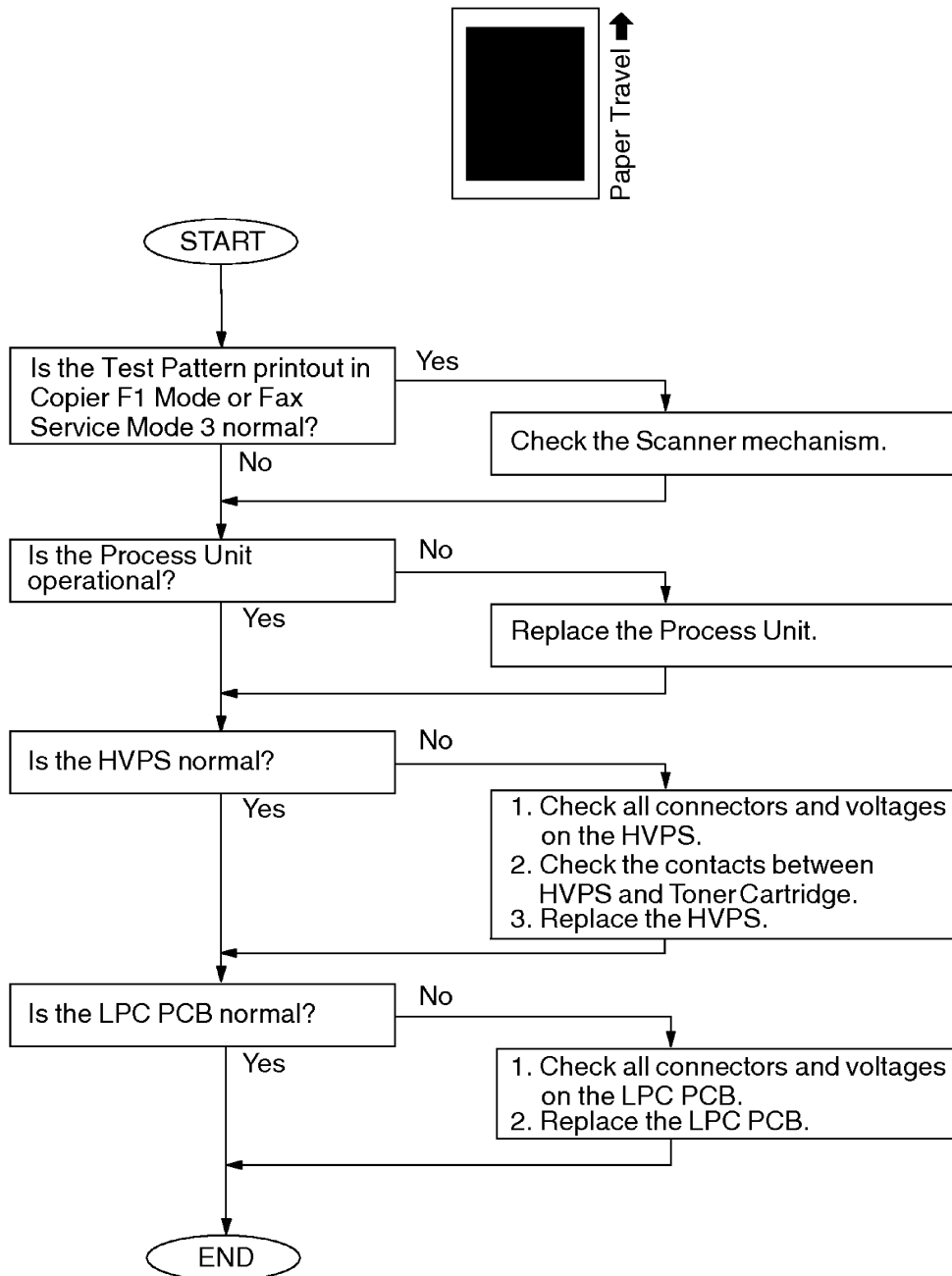
#### 4.3.12. Information Codes: 403, 411, 414, 415 (Polling Operator Trouble)



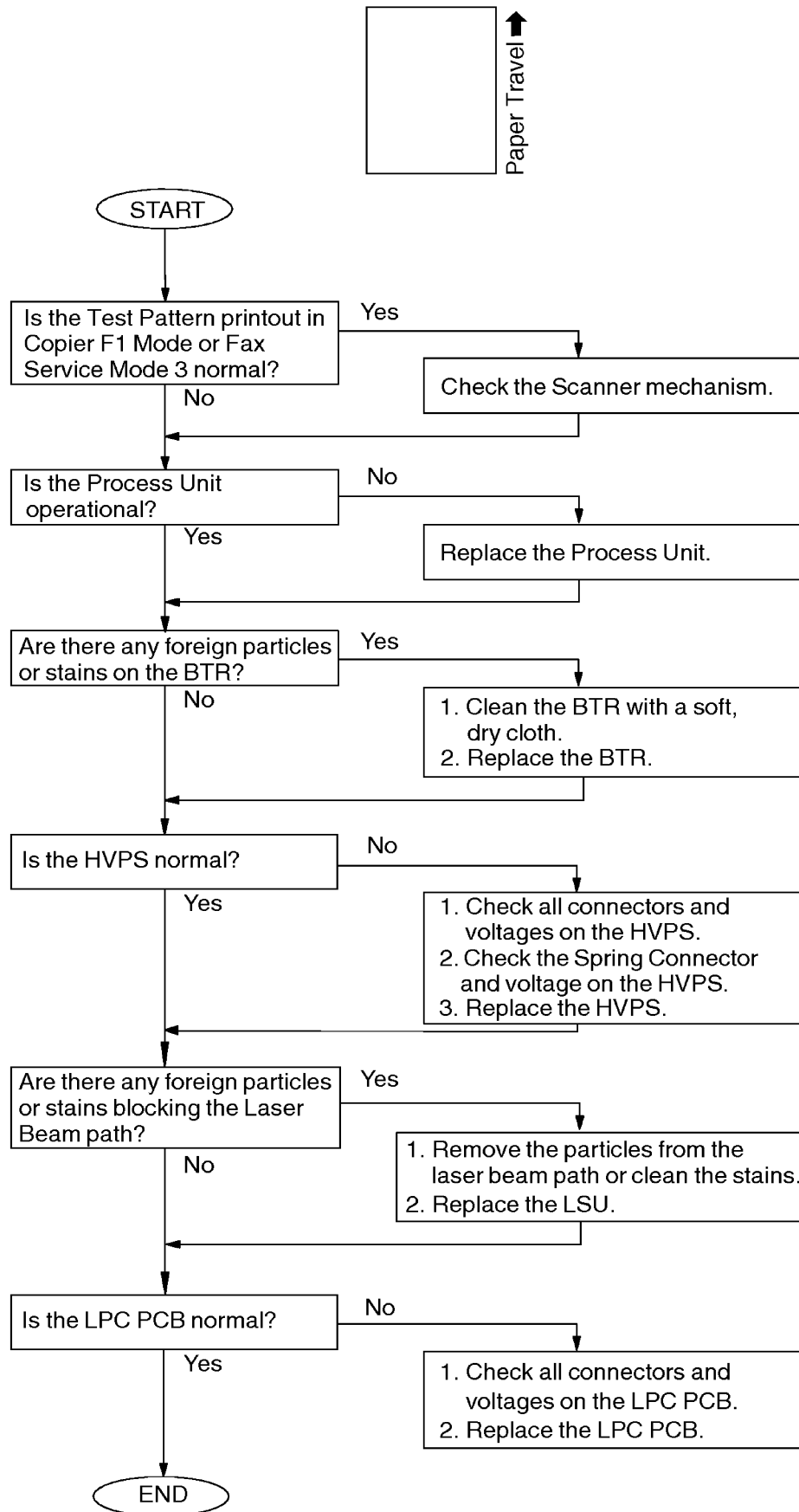
Polling communication with 4-digit password is not an ITU-T Standard feature. If the transmitter and receiver are of different manufacturers, polling communication with password **may not** be possible.

## 4.4. Printed Copy Quality Problems

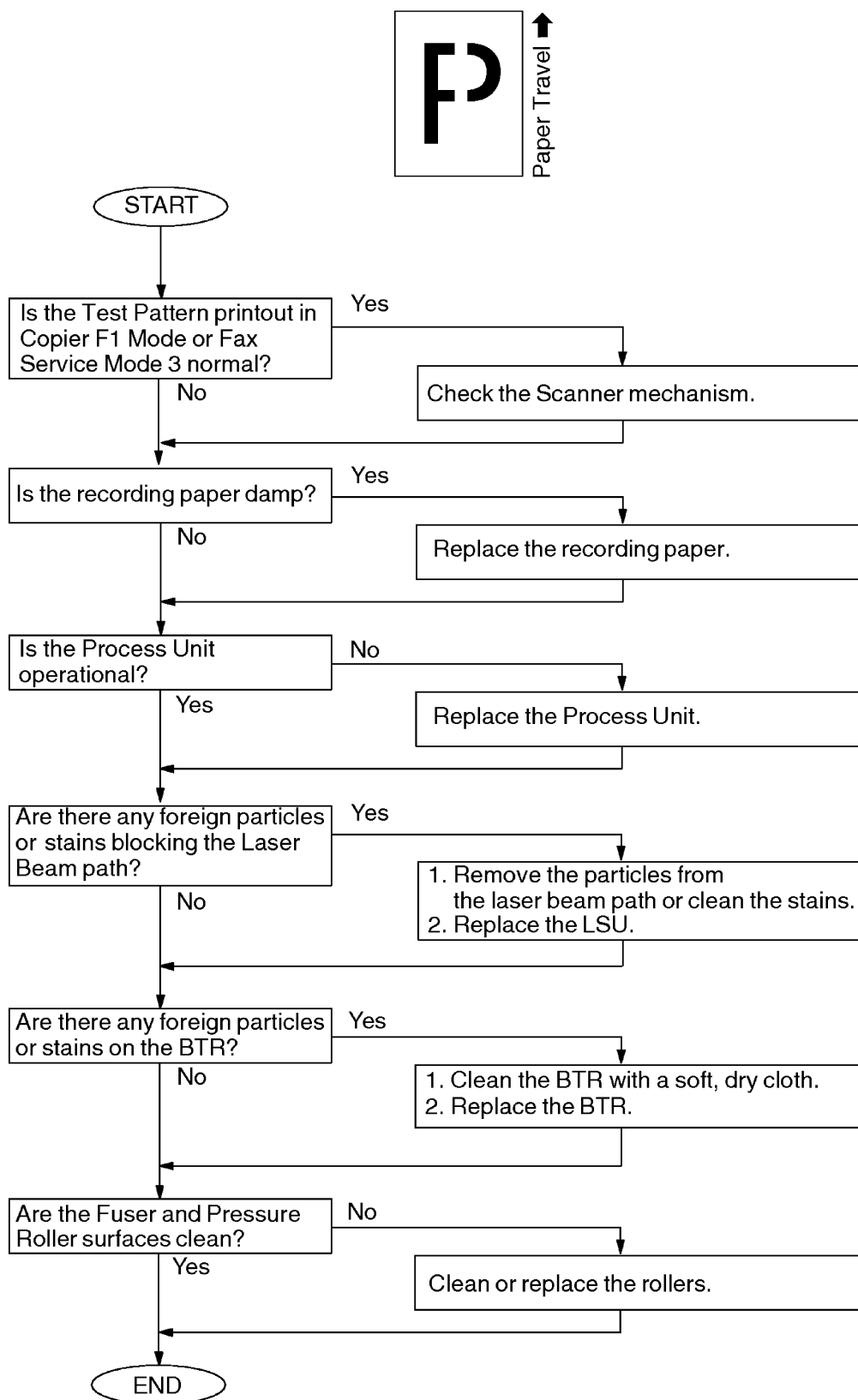
### 4.4.1. Black Copy



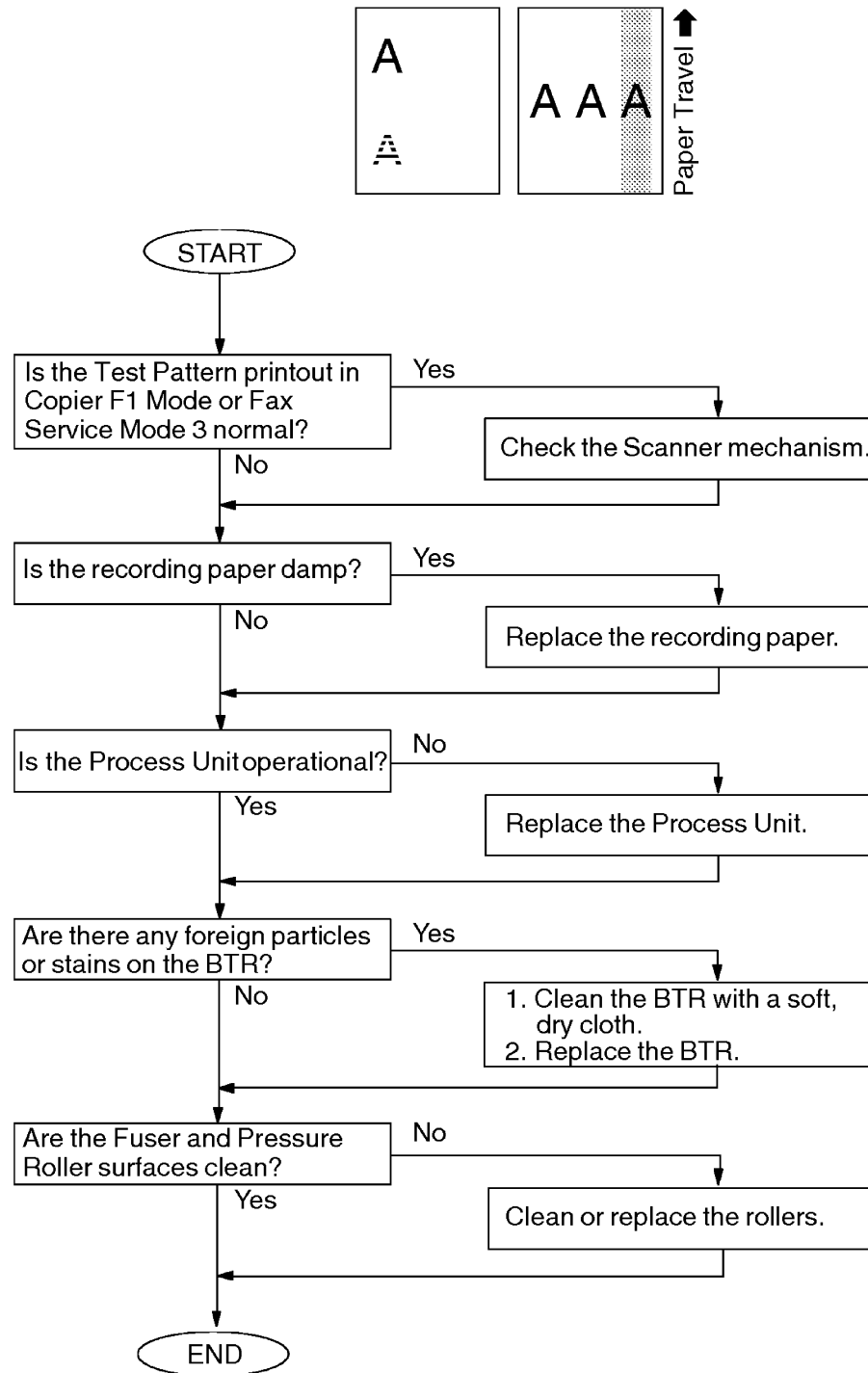
#### 4.4.2. Blank Copy



#### 4.4.3. Vertical White Lines

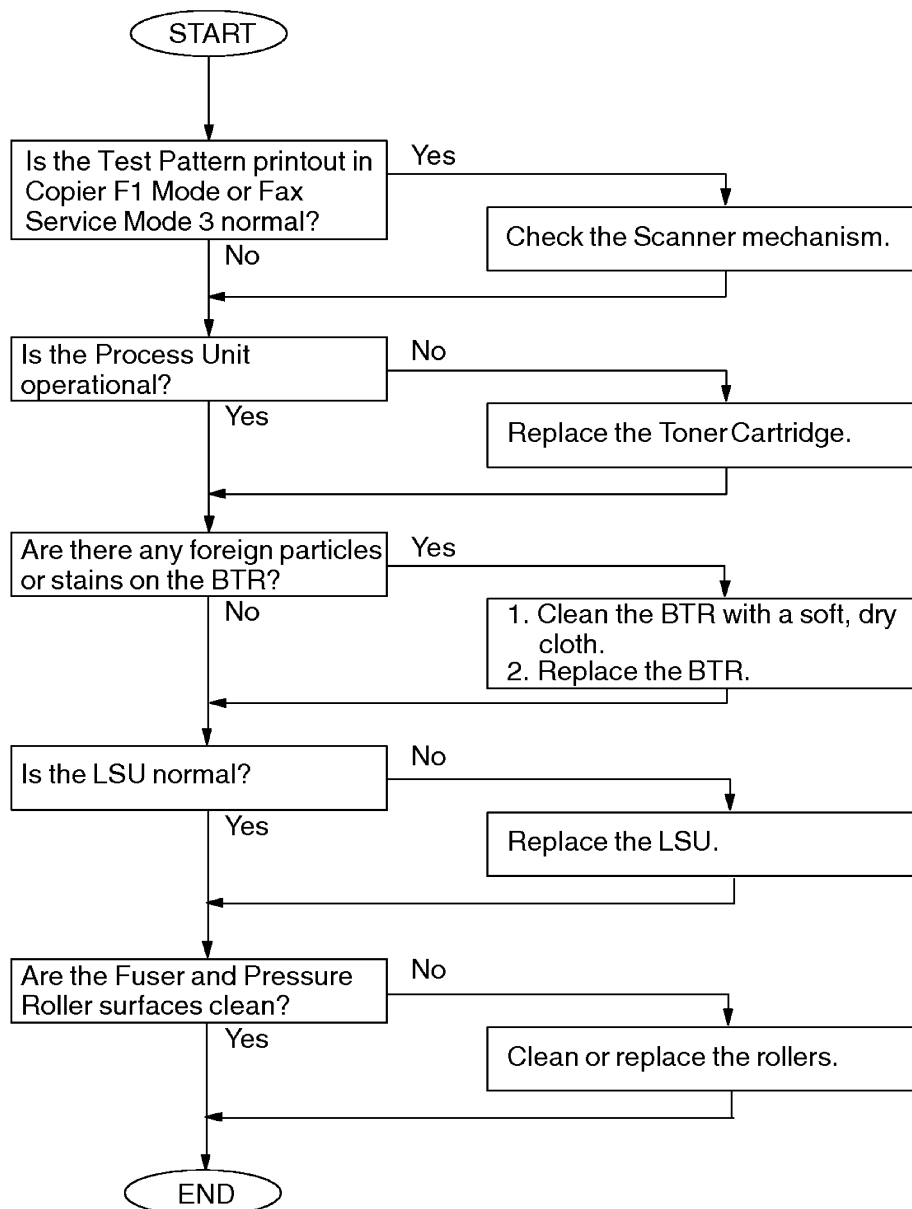
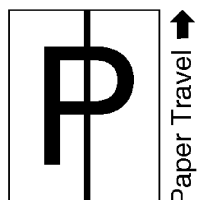


#### 4.4.4. Ghost Images

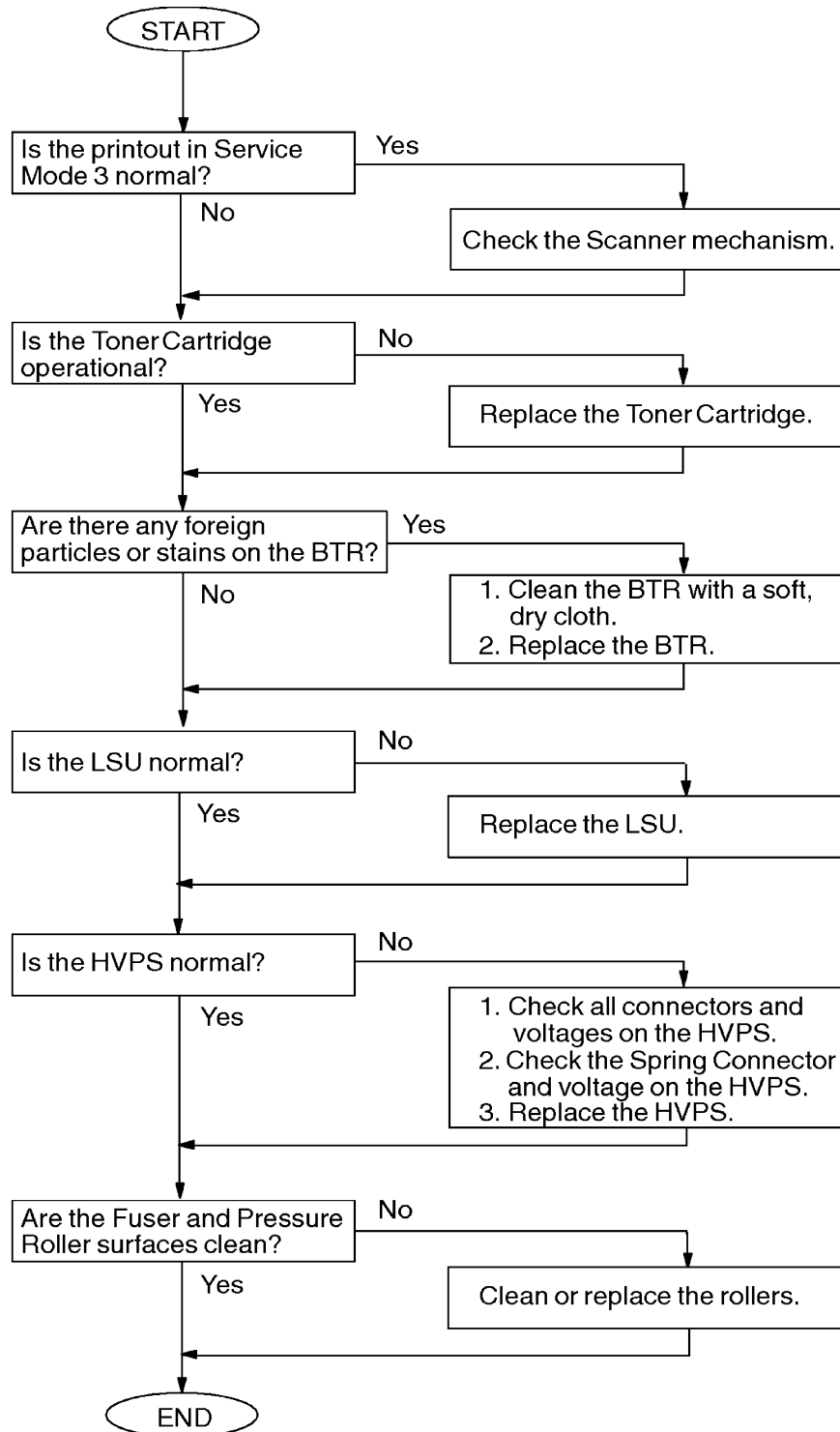
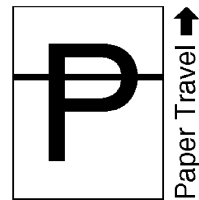




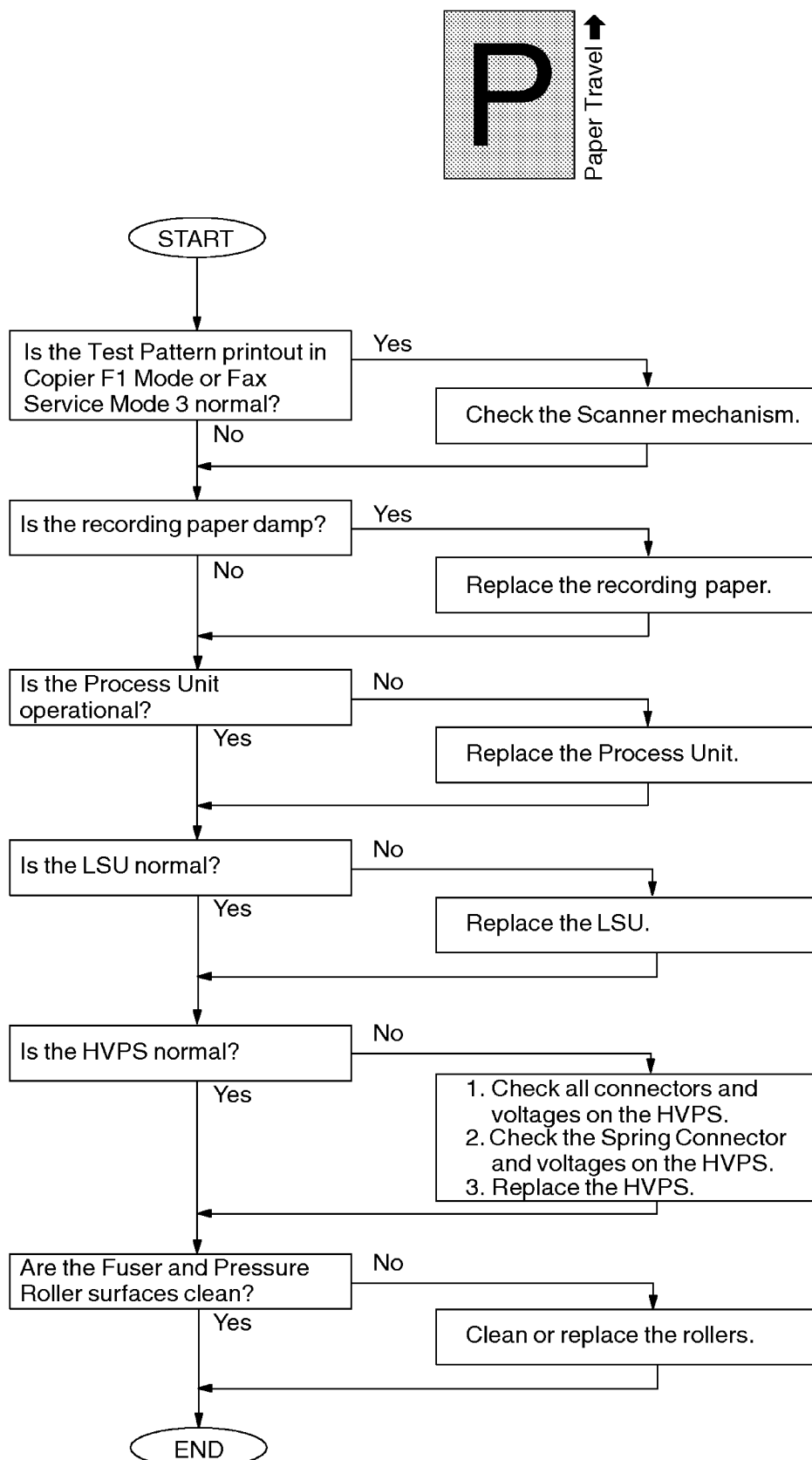
#### 4.4.5. Vertical Dark Lines



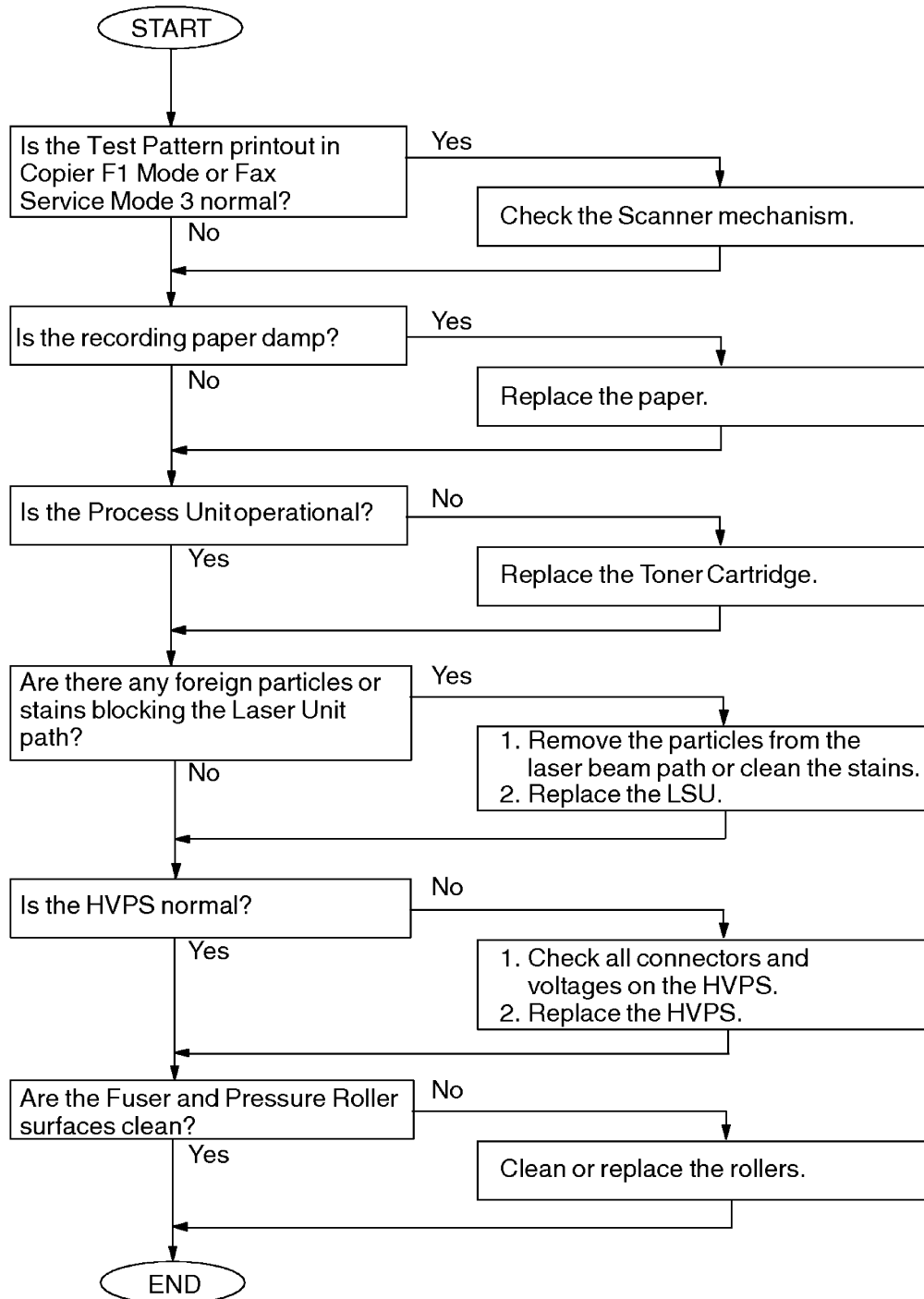
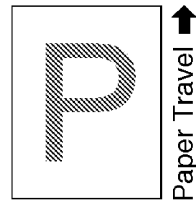
#### 4.4.6. Horizontal Dark Lines



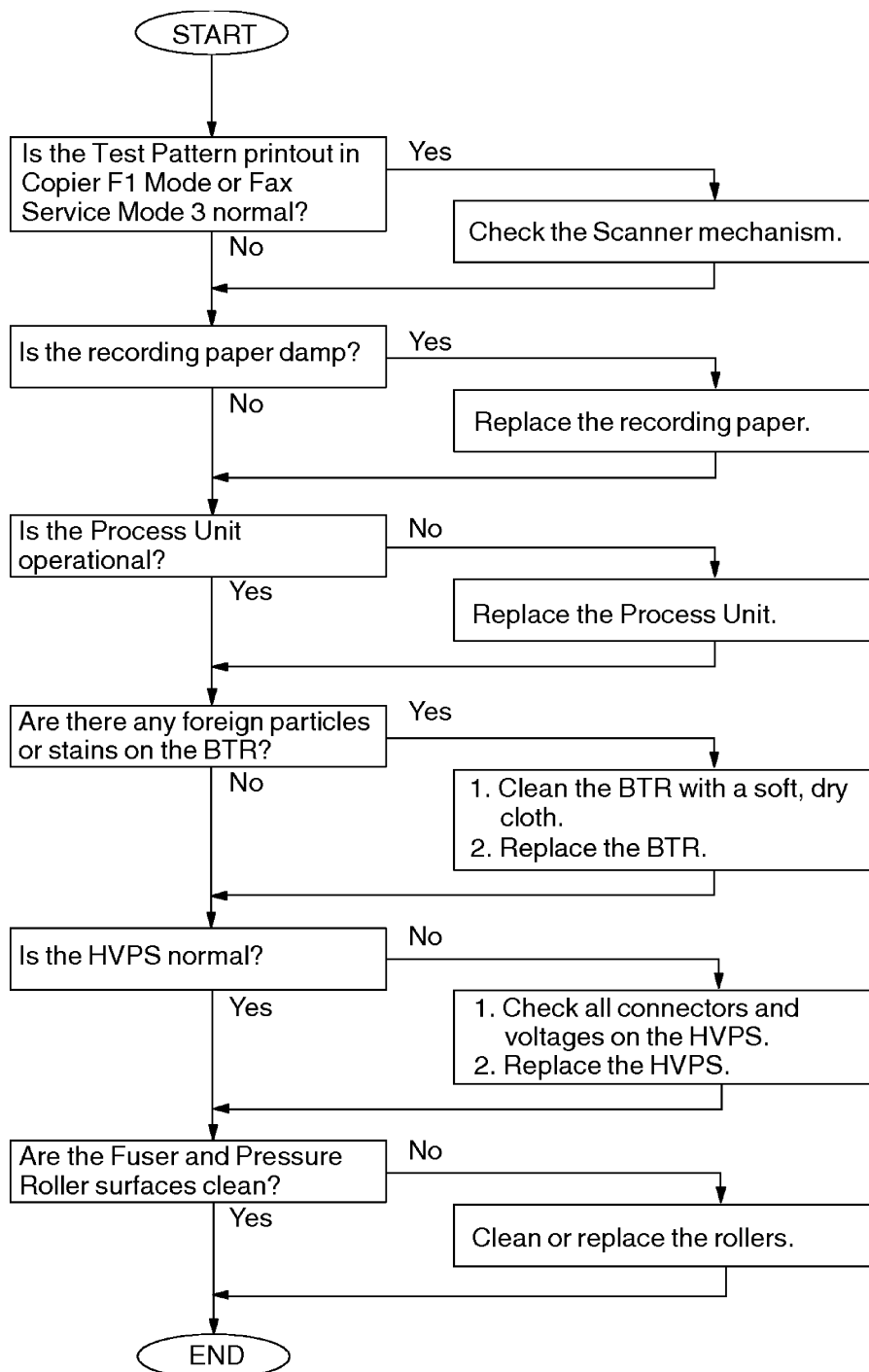
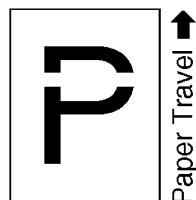
#### 4.4.7. Dark Background



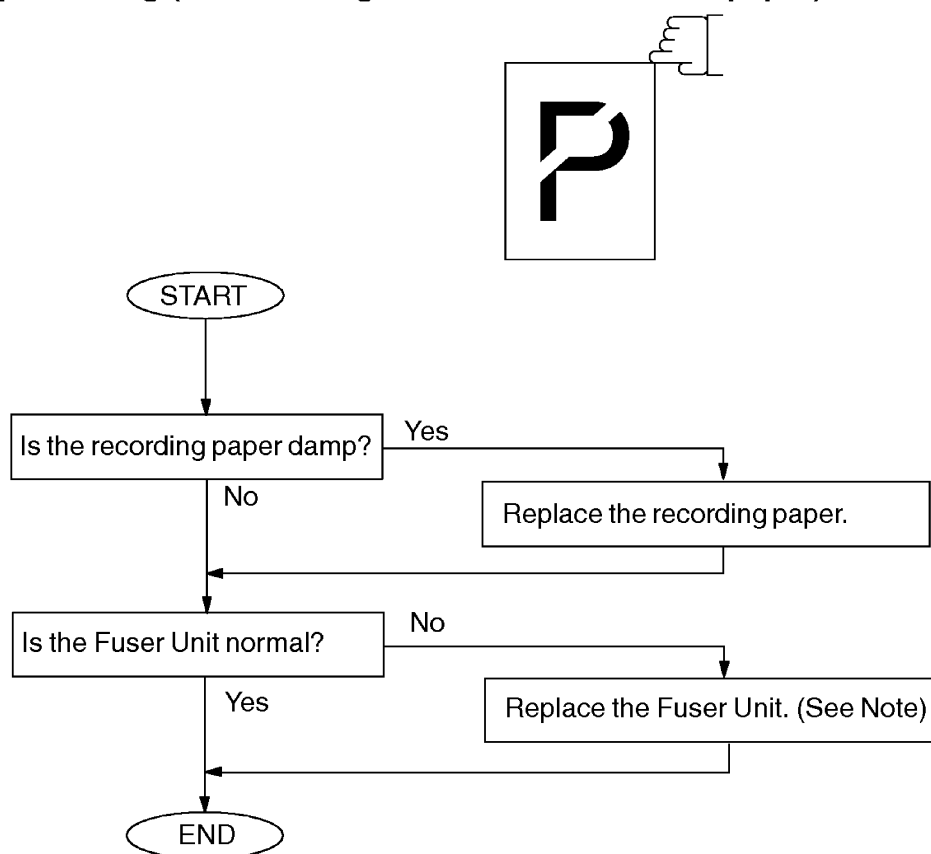
#### 4.4.8. Light Print



#### 4.4.9. Horizontal White Lines



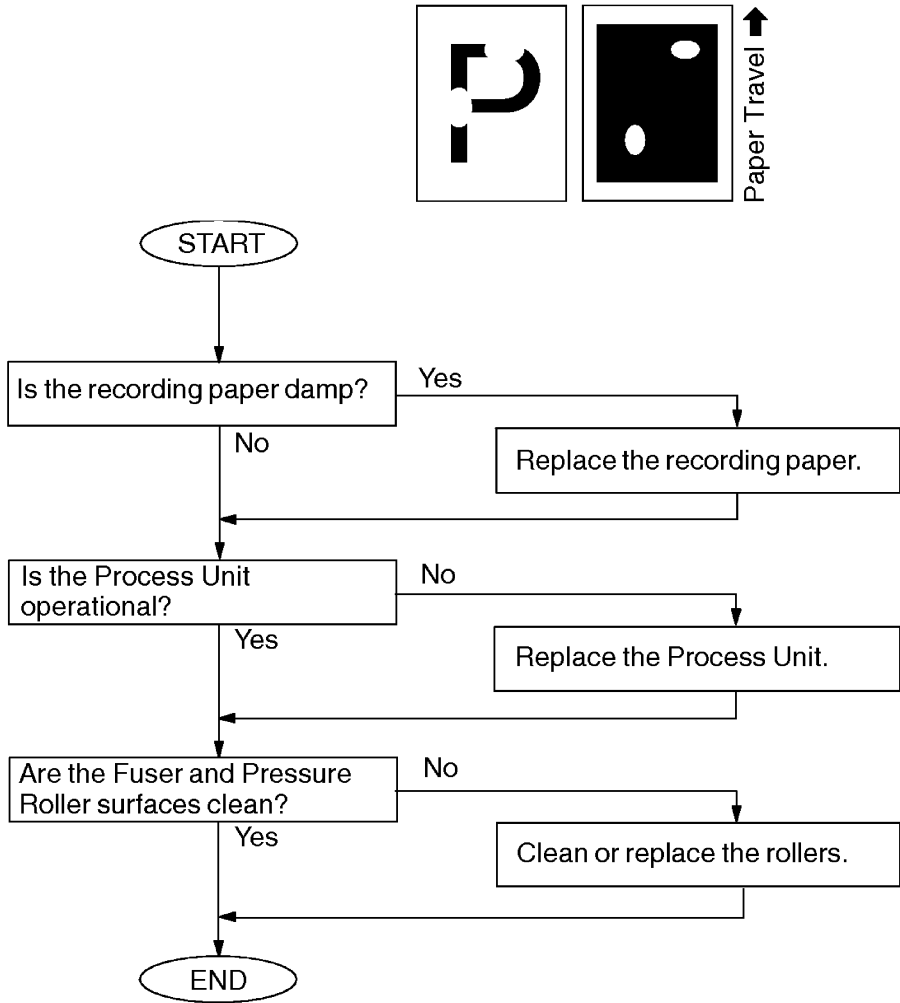
#### 4.4.10. Improper Fusing (Printed image does not bond to the paper)



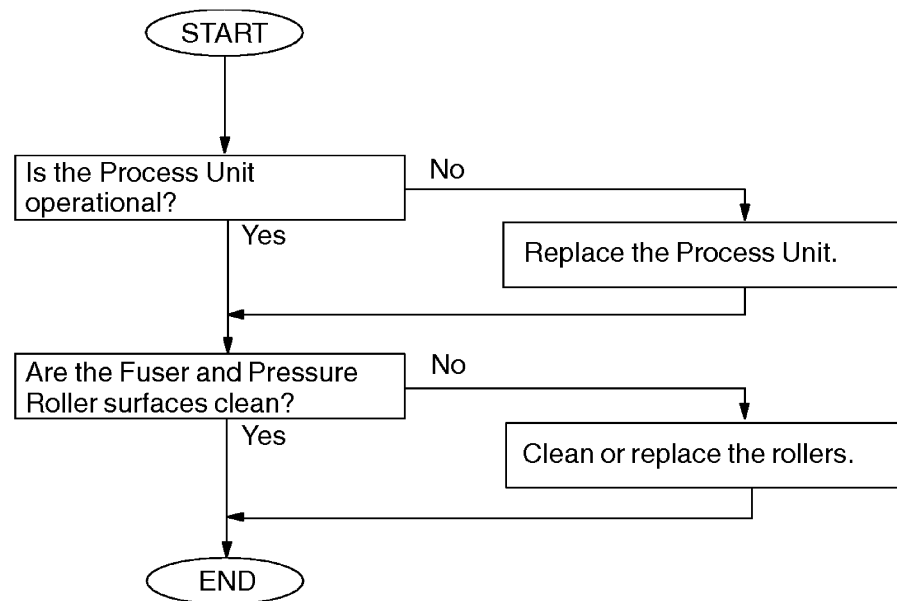
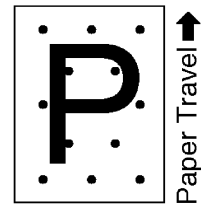
**Note:**

Replace the entire Fuser Unit when the Thermostat and / or the Thermistor turn into an open-circuit.

4.4.11. Voids in Solid Areas

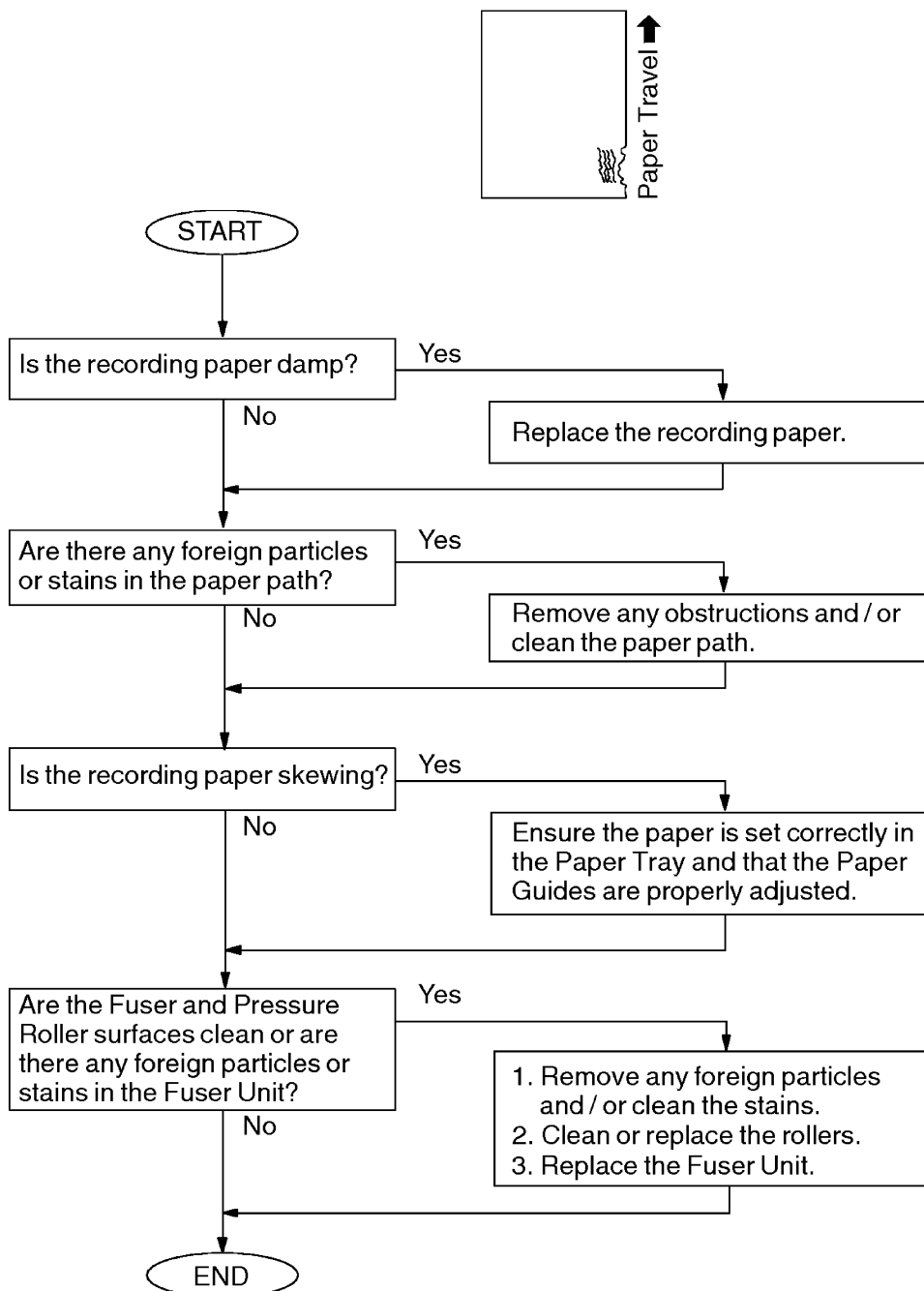


#### 4.4.12. Black Dots

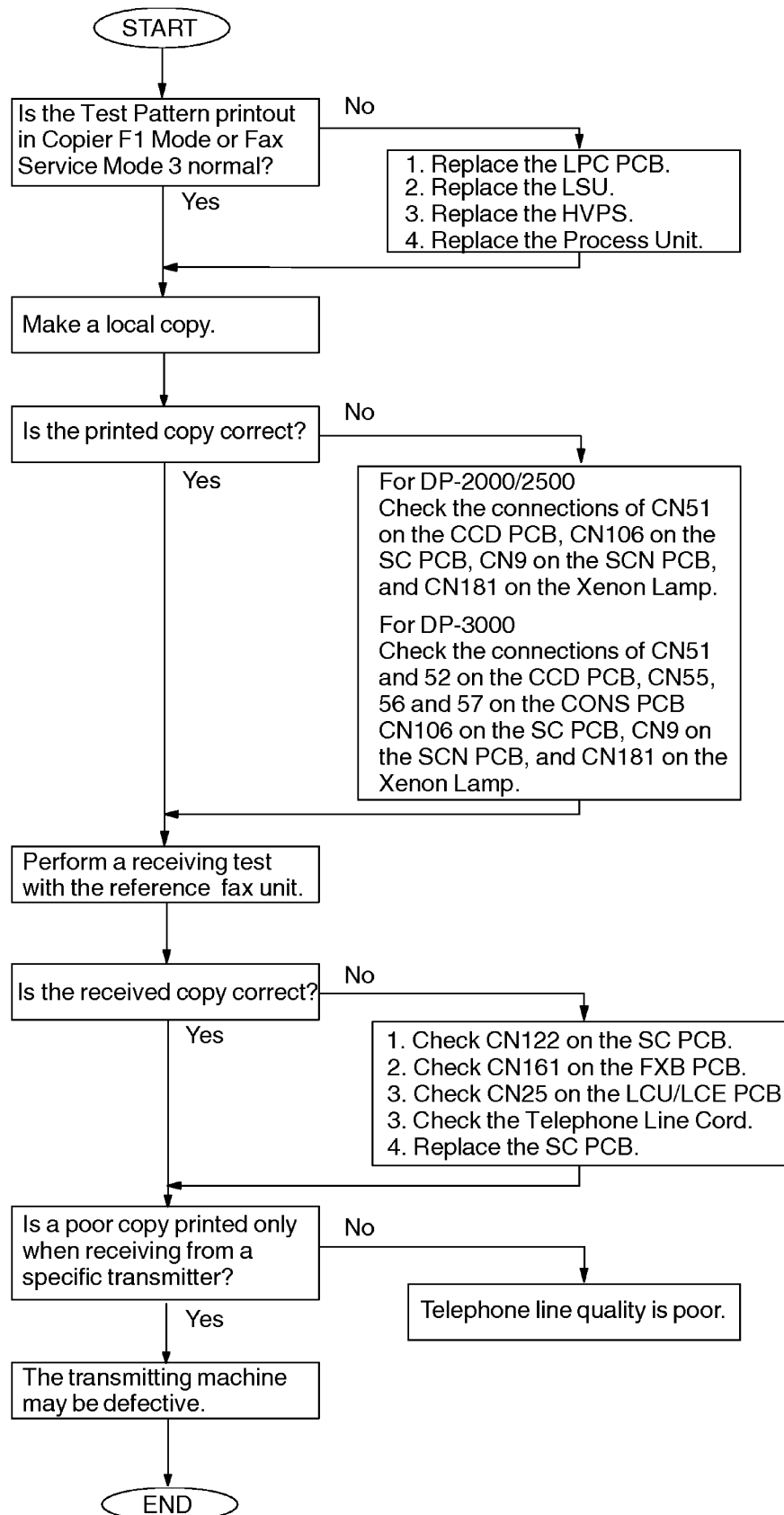




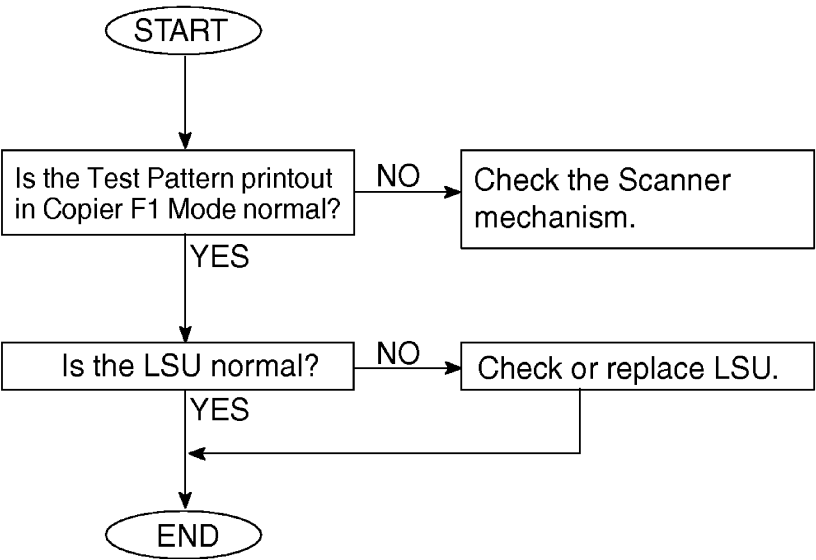
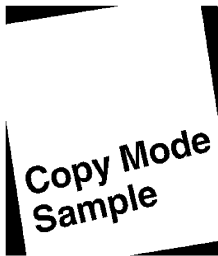
#### 4.4.13. Recording Paper Creases



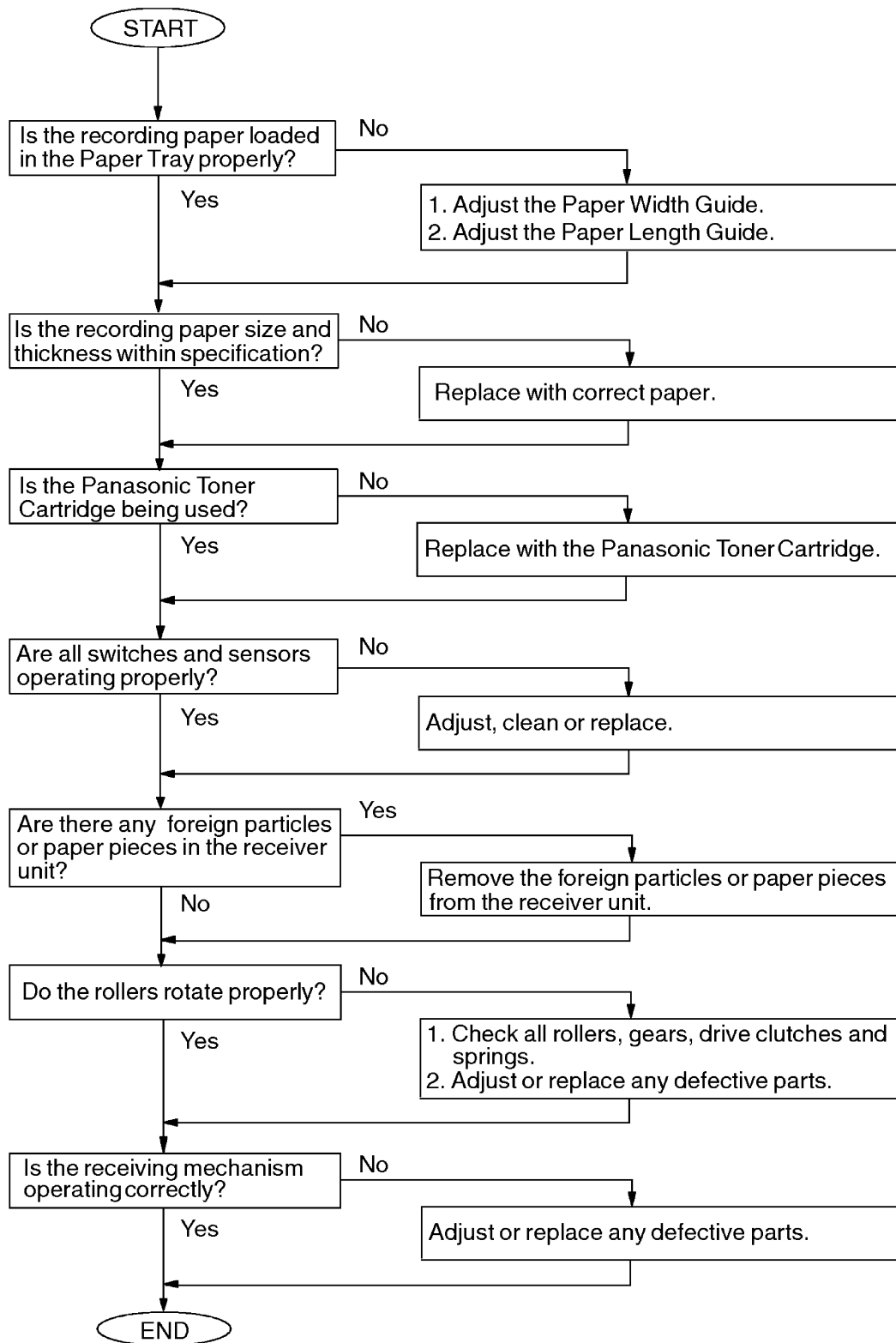
#### 4.4.14. Poor Printed Copy Quality



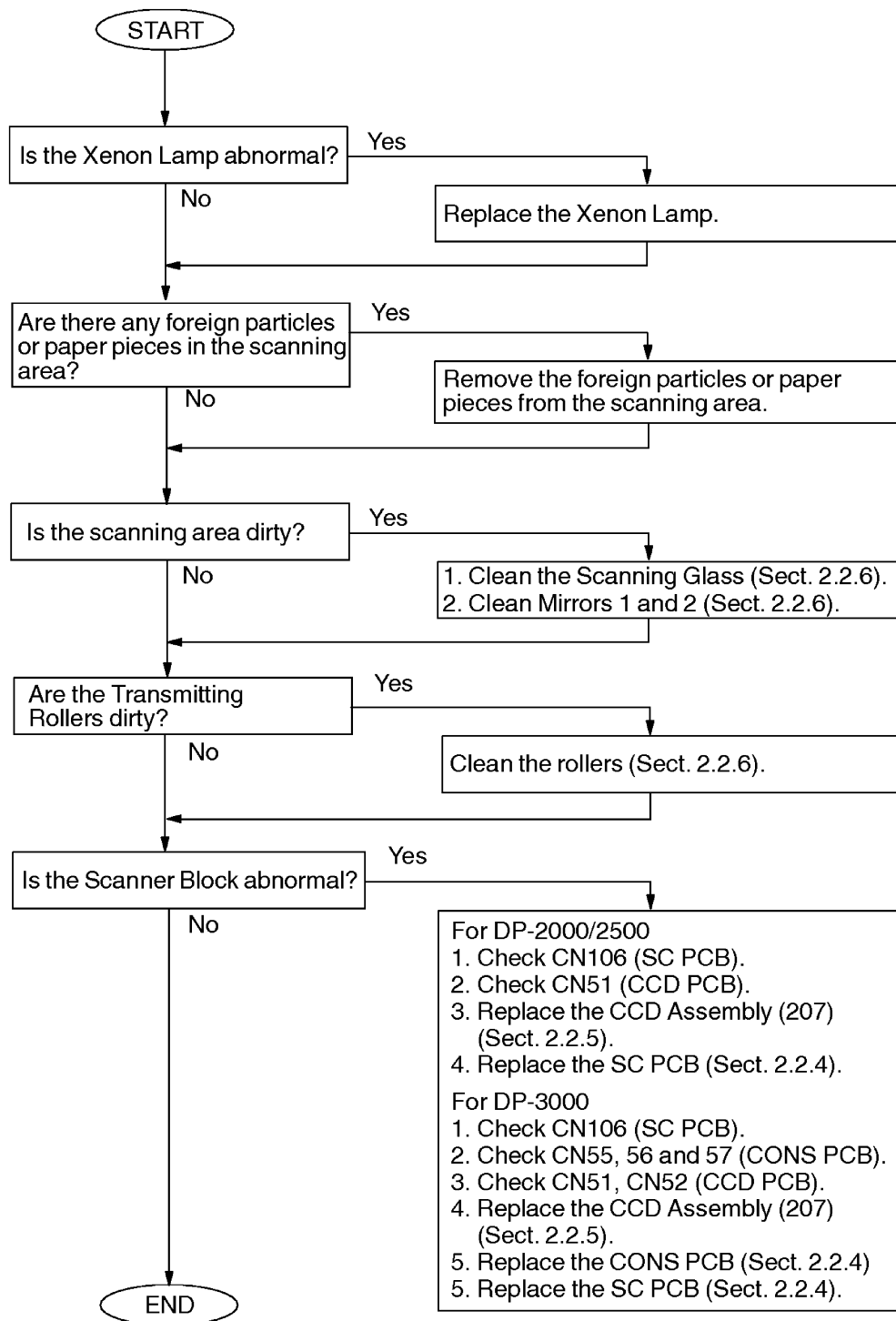
4.4.15. Document Skewing



#### 4.4.16. Abnormal Printing

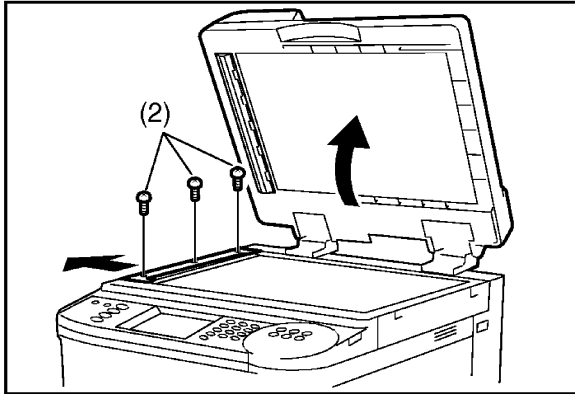


#### 4.4.17. Scanned Copy Quality Problems

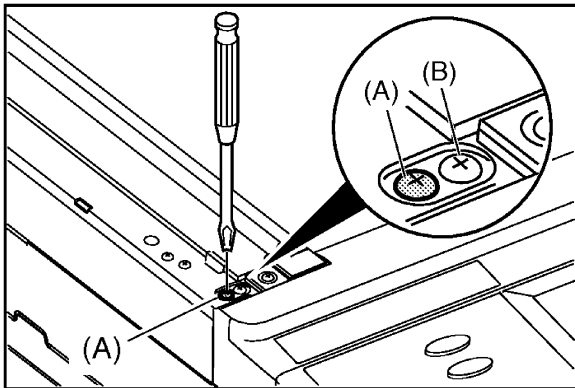


#### 4.4.18. Print Skew Adjustment for Platen Glass Scanning

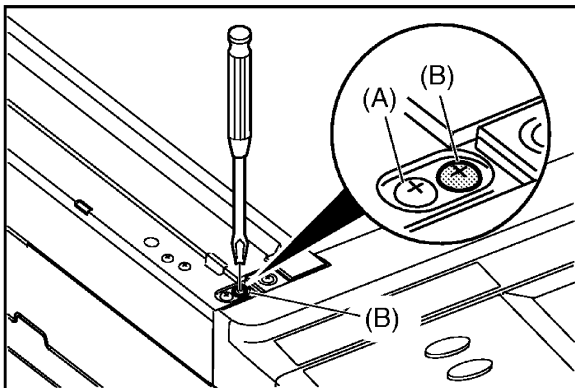
Follow the procedures below to adjust for the skewing when scanning original(s) from the Platen Glass.



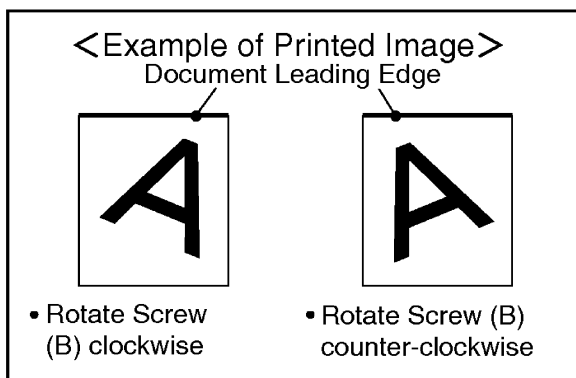
- (1) Make sure that the Scanner Unit is in the Standby Mode.
- (2) Remove 3 Screws and the Left Platen Cover.



- (3) Loosen the Left Screw (A).



- (4) Adjust the Right Screw (B) to correct for the skew of the leading edge of the document.



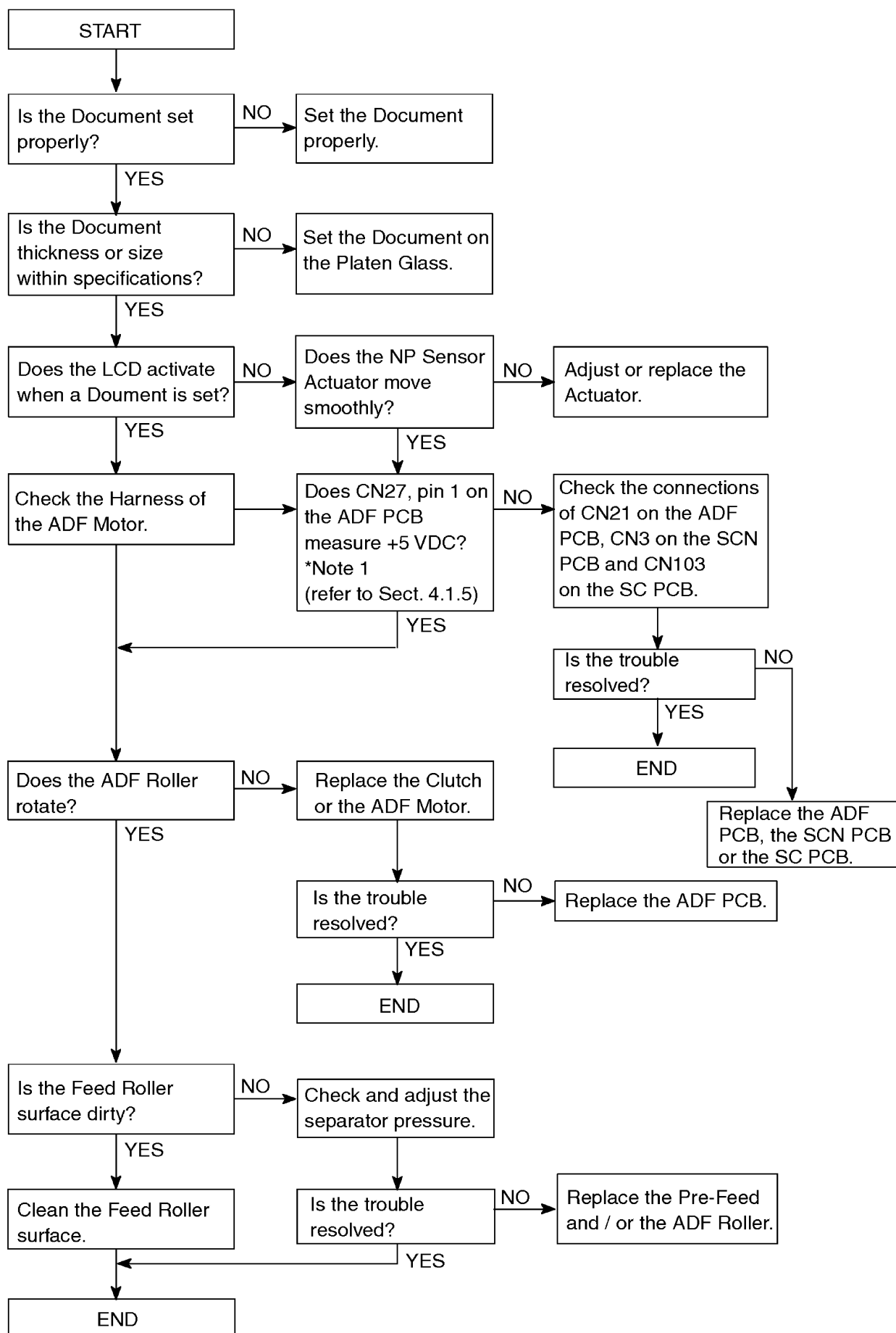
#### <Direction of Rotation and Skew Adjustment Amount>

- Clockwise → When the printed image is skewed to the right side.
- Counter-clockwise → When the printed image is skewed to the left side.
- Rotation and amount of movement → One rotation of the screw, adjusts the skewed image by approximately 1 mm.

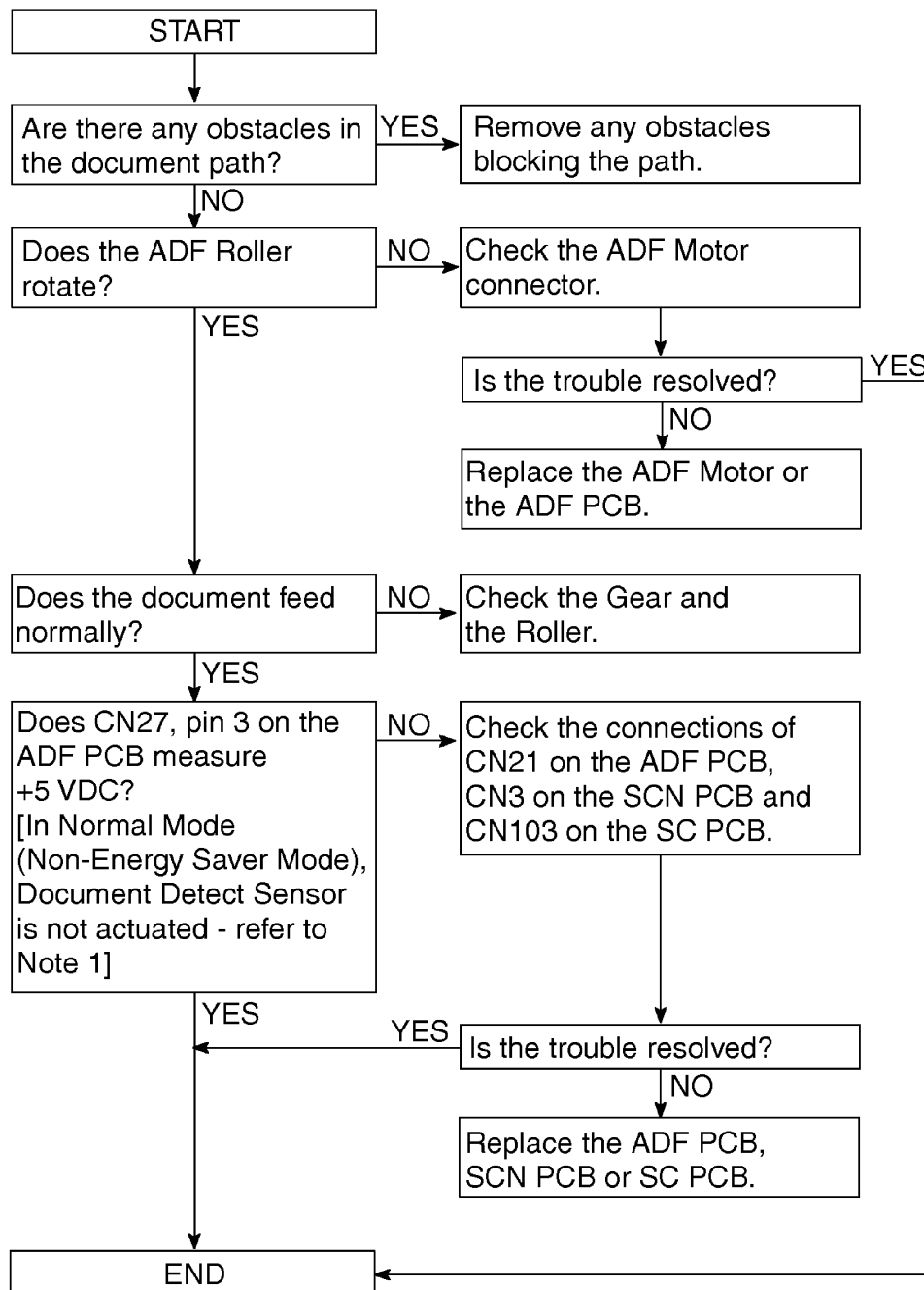
- (5) Make a copy to confirm the correction.
- (6) Perform the Service Mode F6 (No.2) to adjust the Top field, if necessary.
- (7) Tighten Screw (A) and re-install the Left Platen Cover.

## 4.5. Document Feeder (ADF)

### 4.5.1. No Document Feed



#### 4.5.2. Document Jam

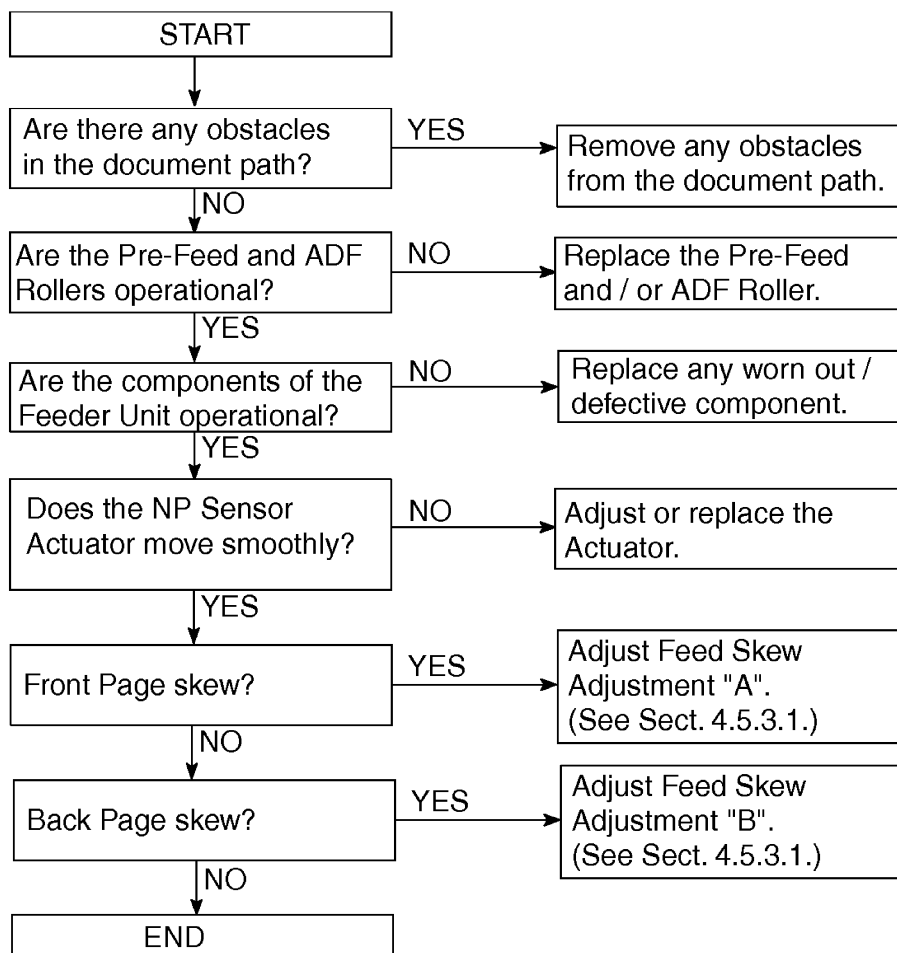


**Note:**

Since 1/10th of the power is supplied during the Energy Saver Mode, the output signal waveform at this pin is at 1/10th of the Duty Pulse.

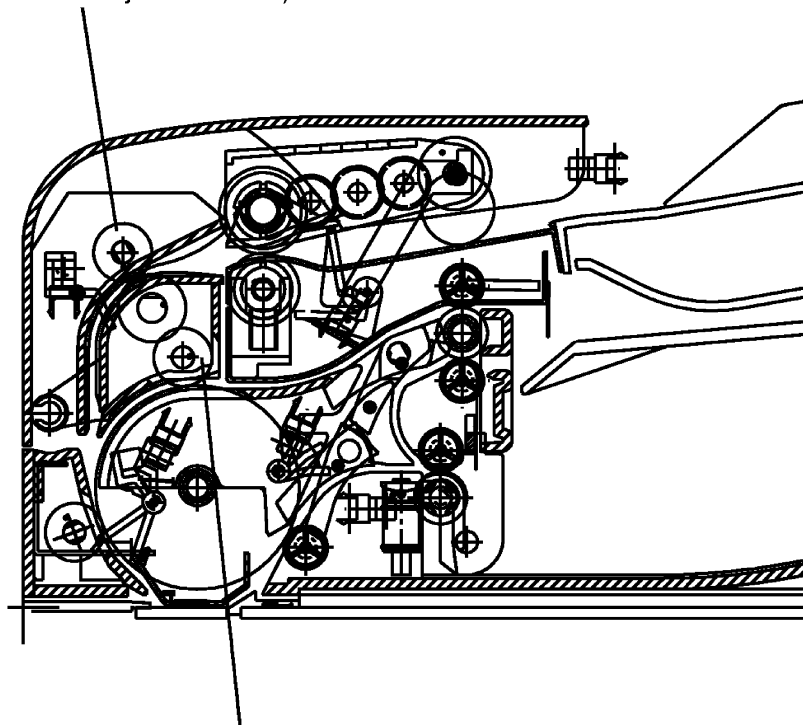


### 4.5.3. Document Skew



#### 4.5.3.1. ADF/iADF Feed Skew Adjustment

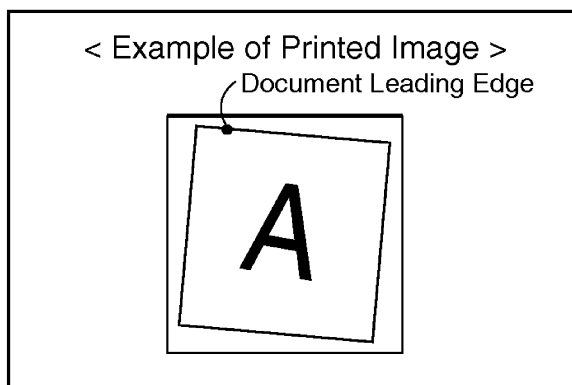
Pinch Roller (1838)  
(Feed Skew Adjustment "A")



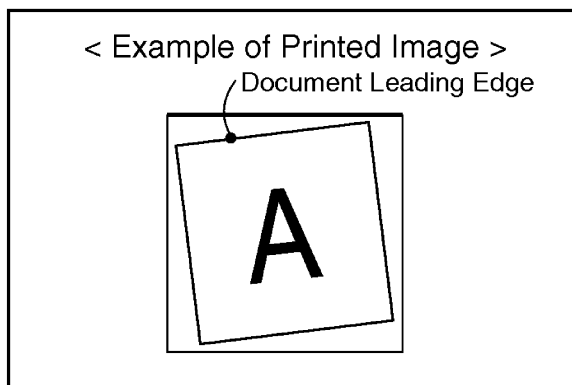
Pinch Roller (1838)  
(Reverse Registration or Feed Skew Adjustment "B")

##### 1. Front Page Skew Adjustment

Using a lined original (about 20 lb (80 g/m<sup>2</sup>) weight paper), make a copy from the ADF/iADF to check for feeding alignment.



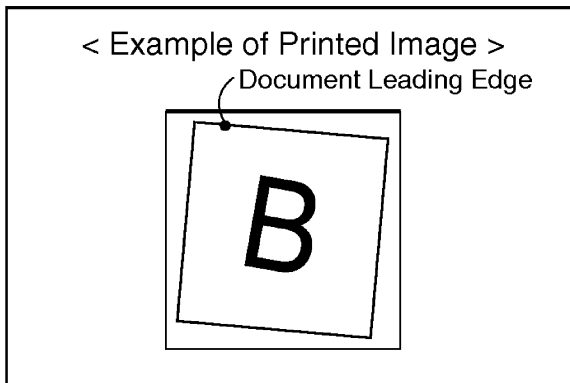
Adjust the Feed Skew Adjustment "A" downwards and recheck the feeding alignment. Readjust as needed.



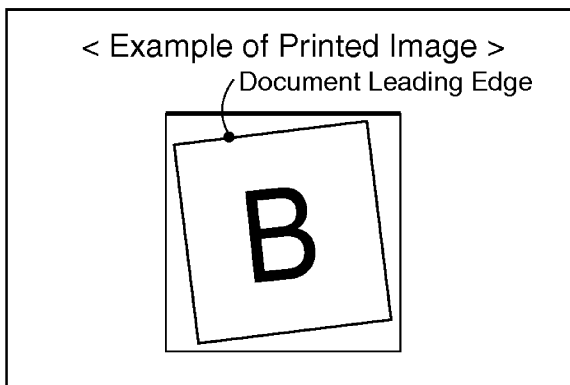
Adjust the Feed Skew Adjustment "A" upwards and recheck the feeding alignment. Readjust as needed.

## 2. Back Page Skew Adjustment (iADF only)

Using a lined original (about 20 lb (80 g/m<sup>2</sup>) weight pager), make a copy from the iADF to check for feeding alignment.



Adjust the Feed Skew Adjustment "B" downwards and recheck the feeding alignment. Readjust as needed.



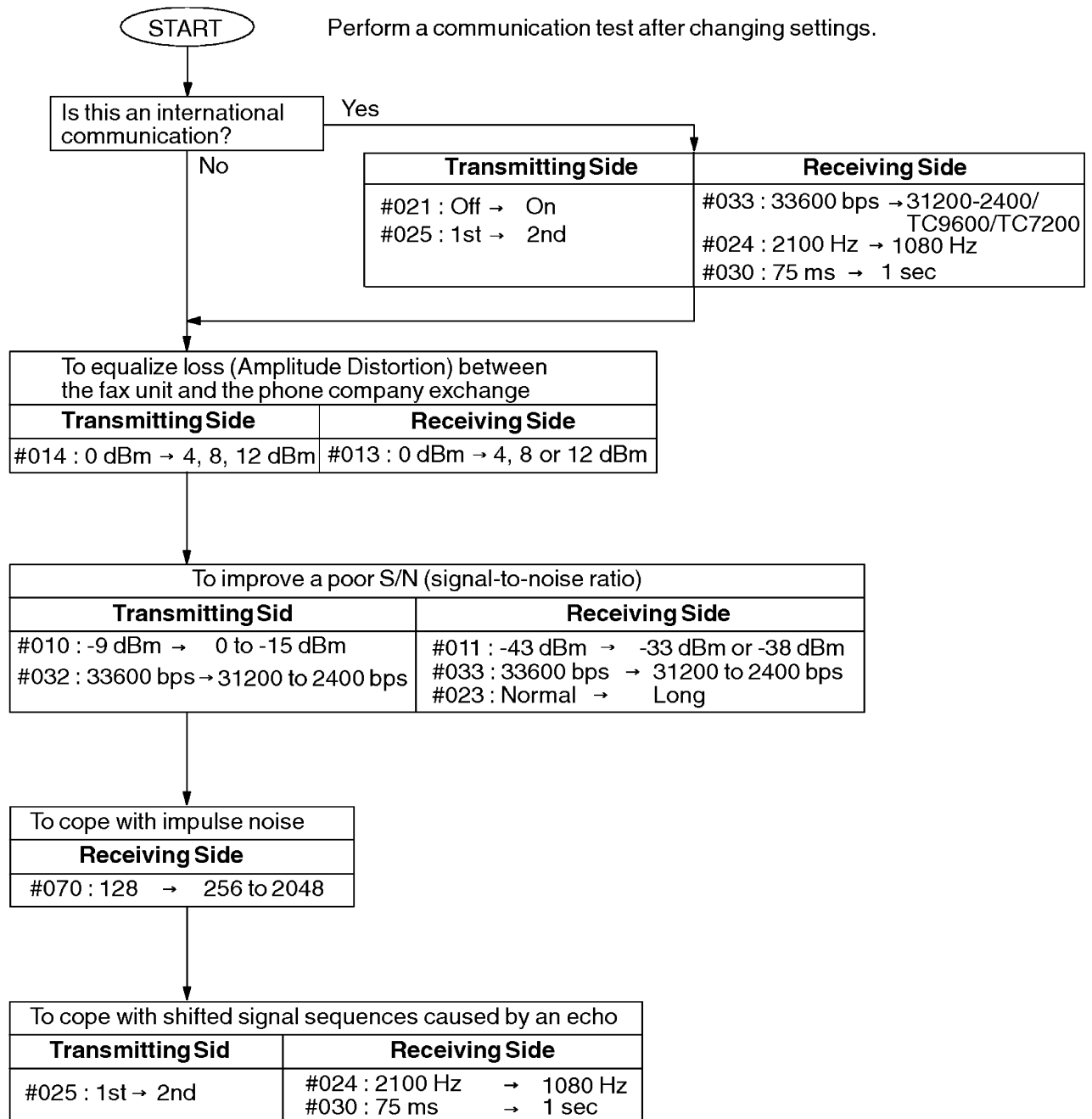
Adjust the Feed Skew Adjustment "B" upwards and recheck the feeding alignment. Readjust as needed.

## 4.6. Communications

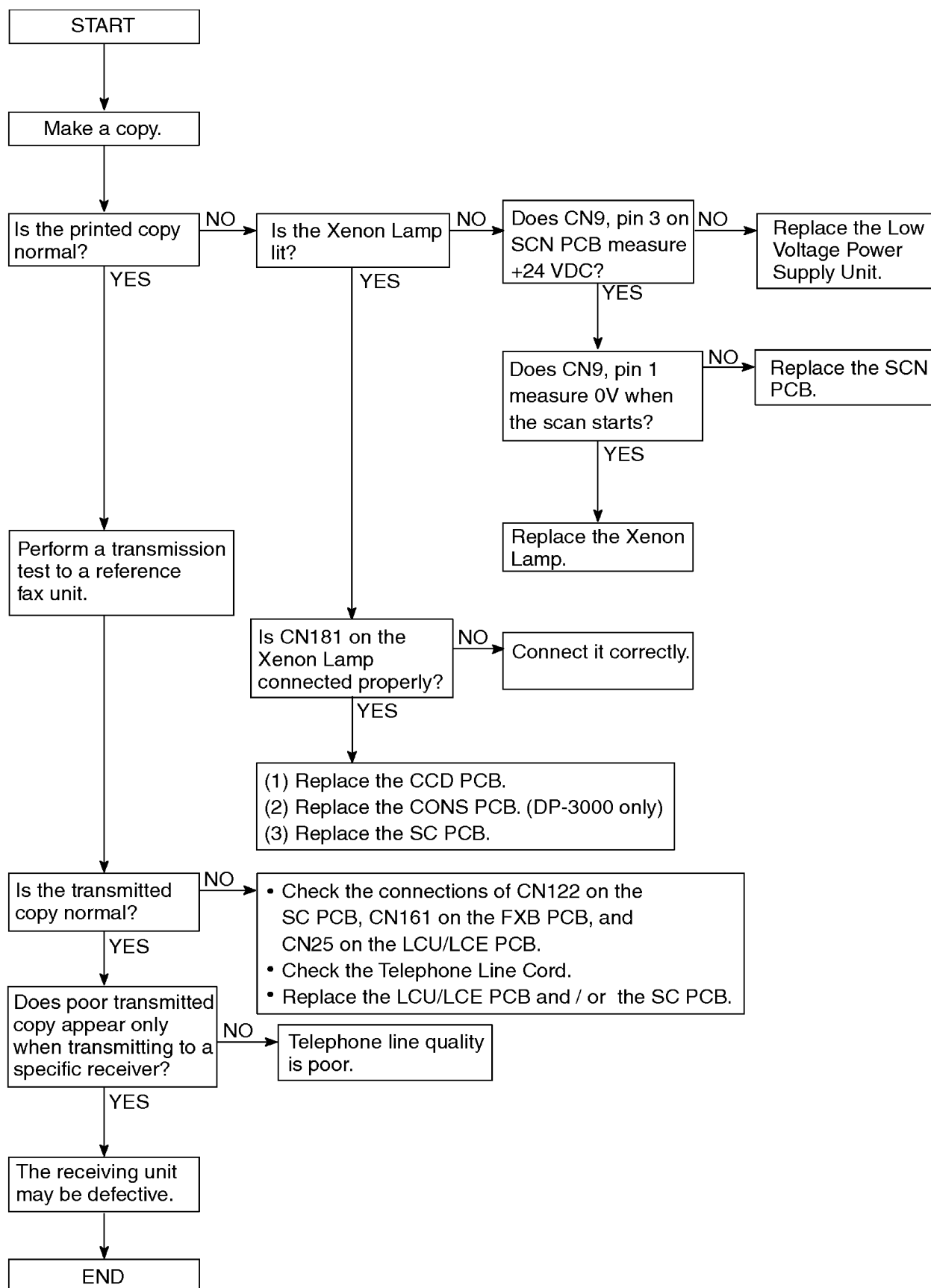
This section explains general troubleshooting procedures for the 400 series of Information Codes. These errors are primarily caused by poor telephone line quality (loss, noise, echo, etc.). This unit is furnished with Service Mode 1 to assist in troubleshooting line quality problems.

It is suggested that both the transmitting unit and receiving unit be adjusted. This section gives relevant parameters in Service Mode 1 for the transmitting and receiving sides. If no improvement is realized after the parameters are adjusted, it is recommended that the parameters be returned to the default settings.

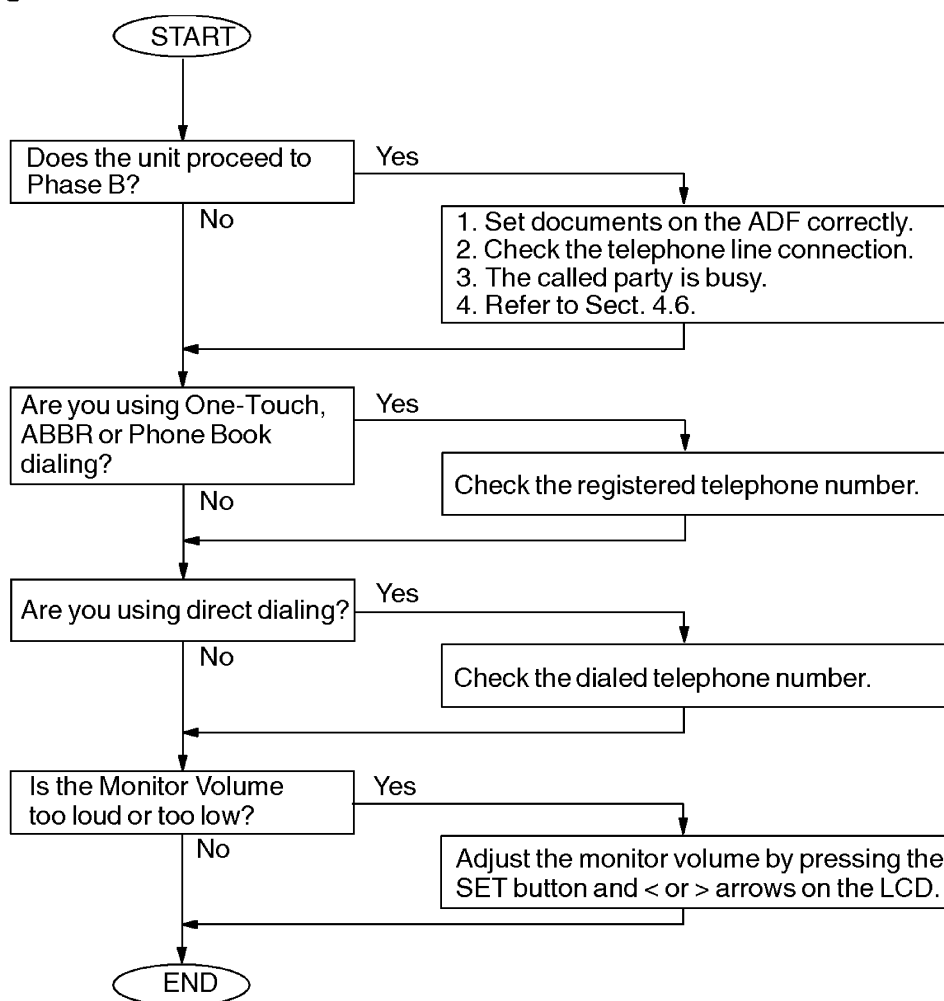
### 4.6.1. Communication Trouble



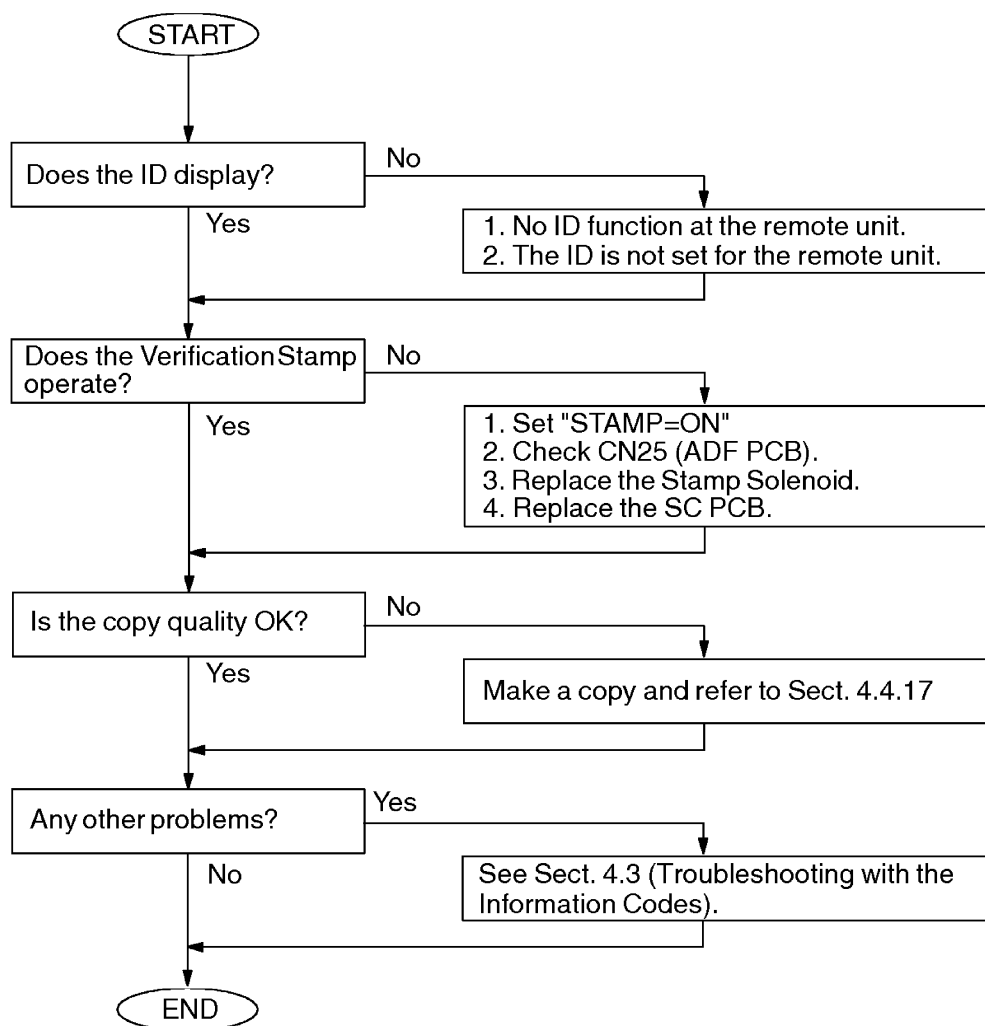
#### 4.6.2. Poor Transmitted Copy Quality



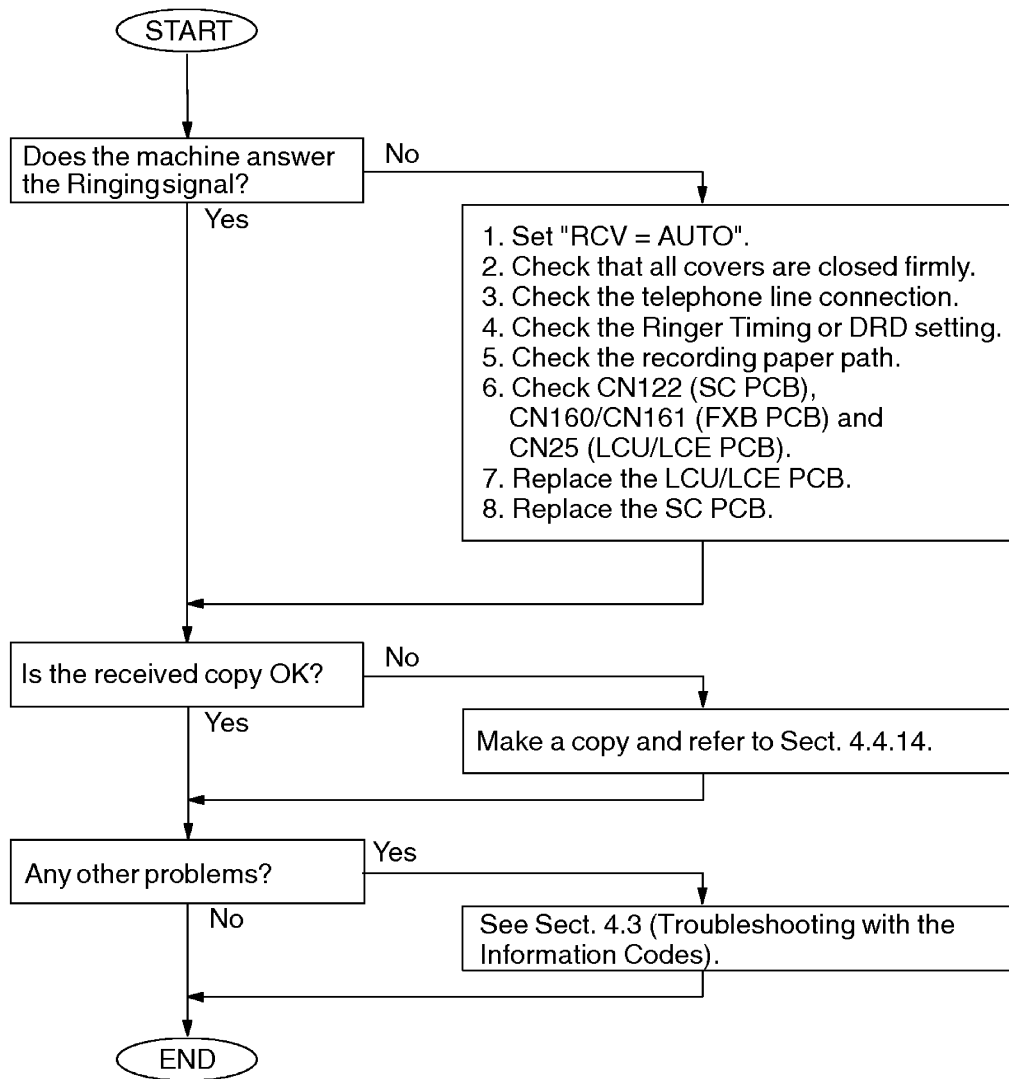
### 4.6.3. Dialing Problems



#### 4.6.4. Transmission Problems

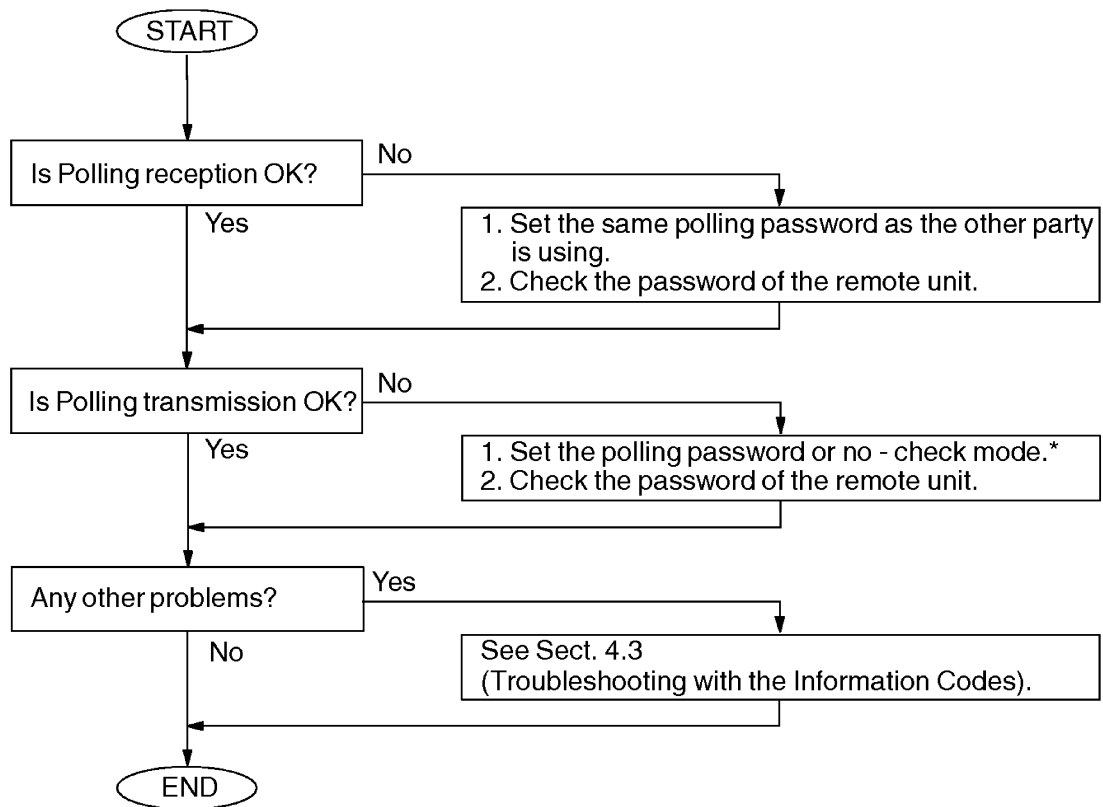


#### 4.6.5. Reception Problems



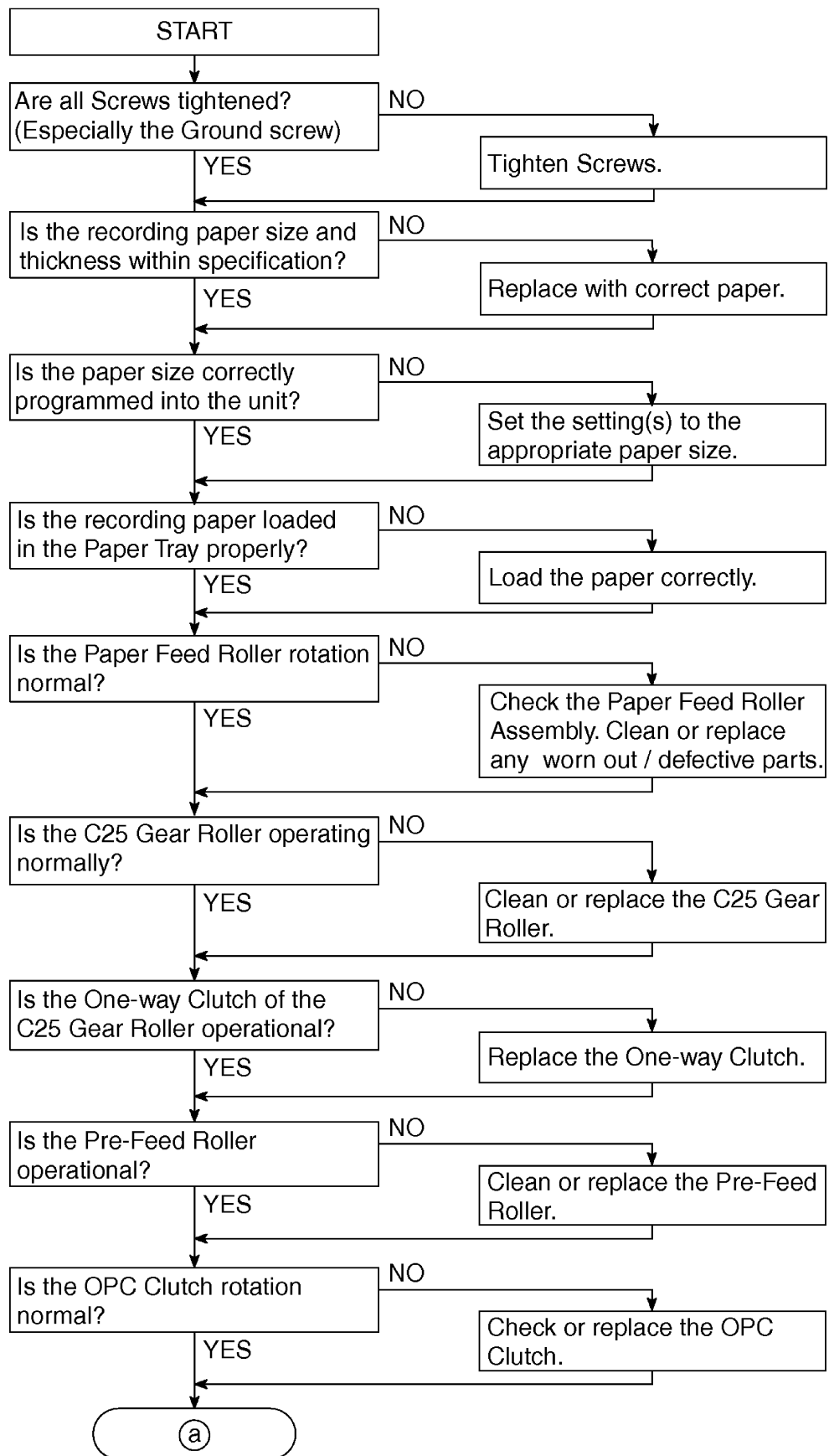


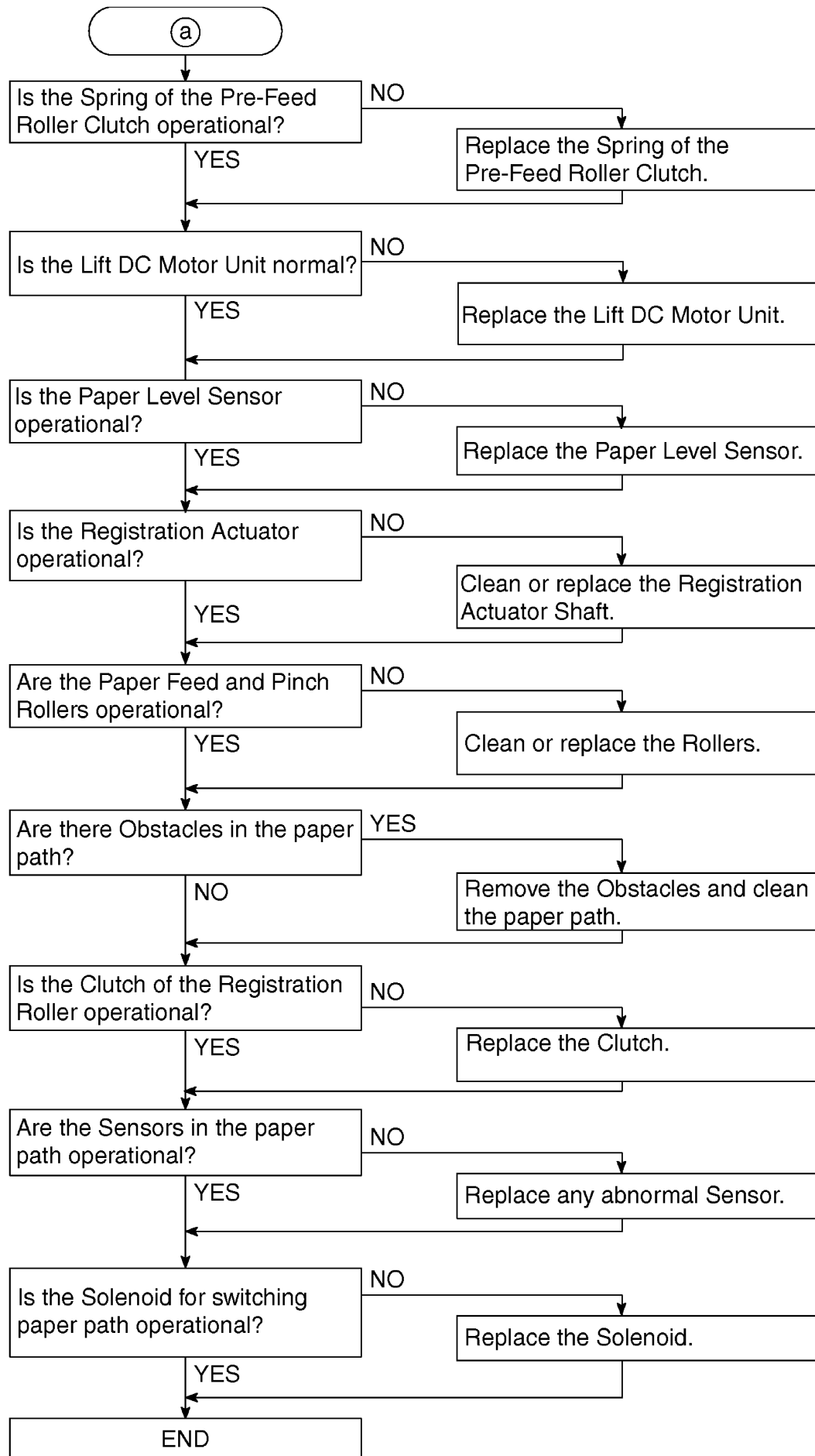
#### 4.6.6. Polling Problems



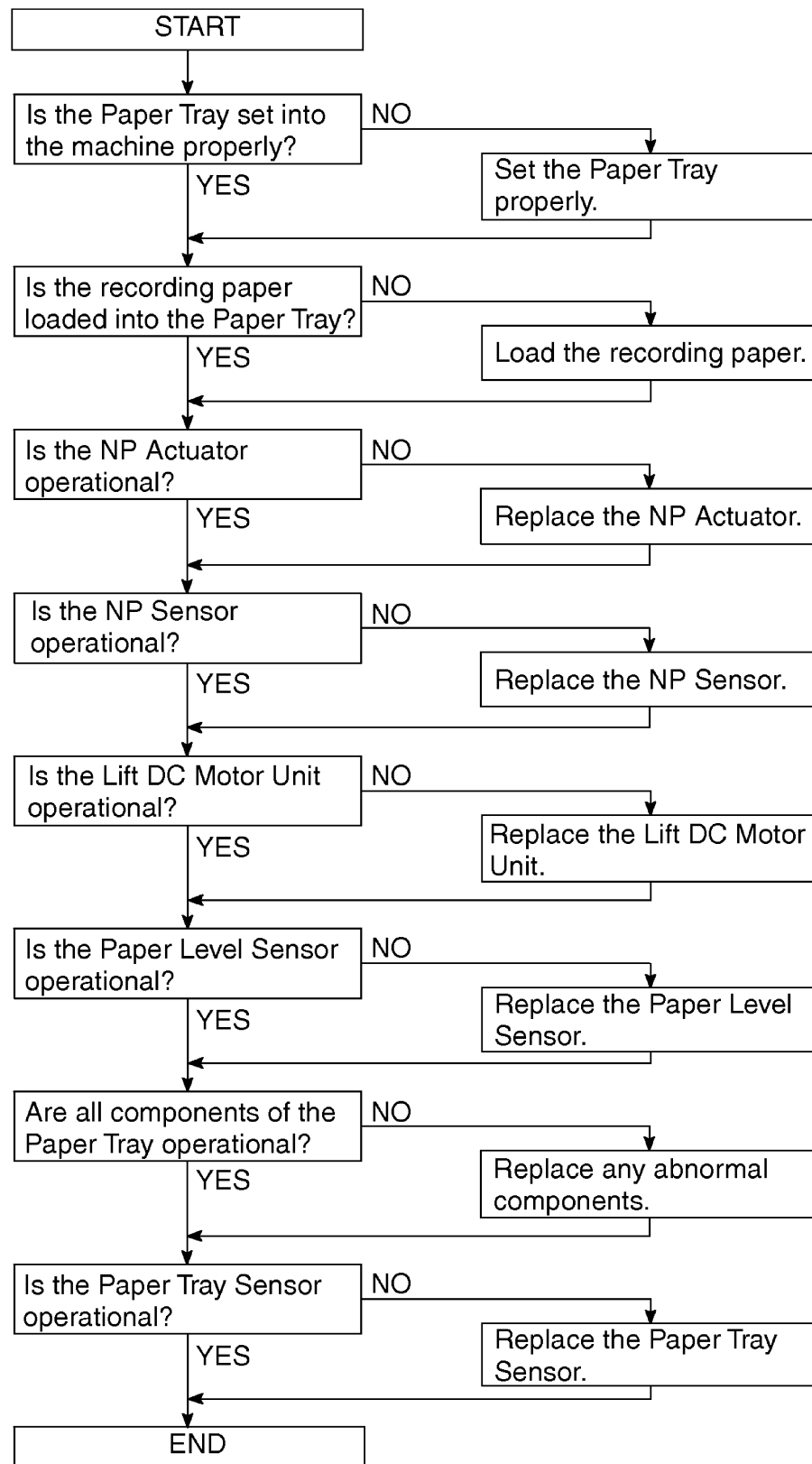
**Note:**  
No-check Mode means that password is not set.

#### 4.6.7. Recording Paper Jam



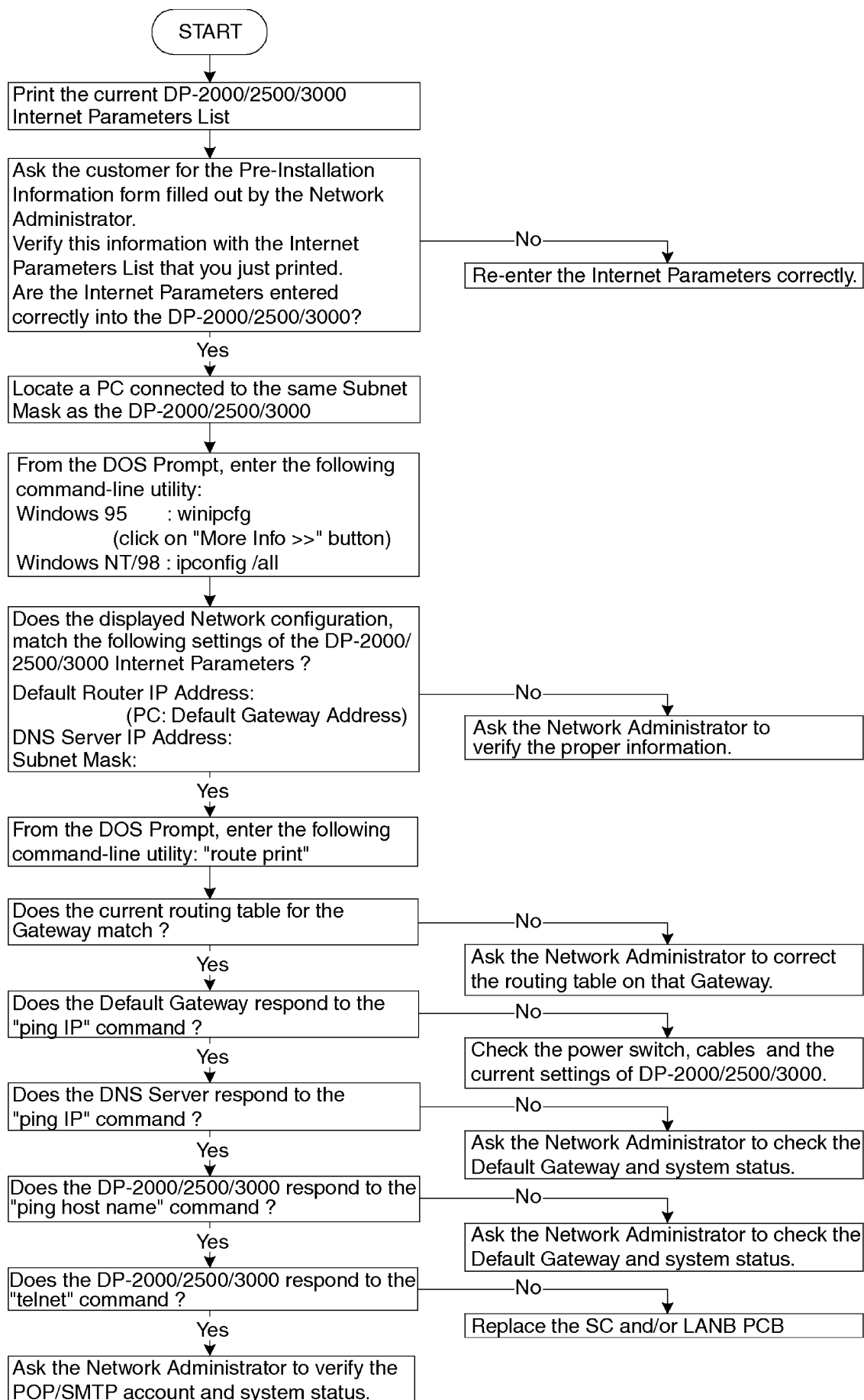


#### 4.6.8. No Recording Paper



## 4.7. Troubleshooting the LAN Interface

### 4.7.1. Checking Network Configuration



#### 4.7.2. Testing the TCP/IP Network

It is beyond the scope of this Service Manual to cover Networking in detail, there are many excellent manuals on this subject, but we hope the information in this section will aid with your troubleshooting efforts. In most cases, the Network Administrator will be able to provide you with needed information or assistance.

When encountering Network problems during an onsite service call or during the installation stage, try to isolate the steps that are not being completed so that you can quickly locate the components that don't work. It is best to organize your troubleshooting efforts by understanding what should be happening, then you can trace the path and see where the problem is occurring.

In our case, we use TCP/IP for transportation of data from one system to another, which involves a whole series of events occurring throughout a number of different layers.

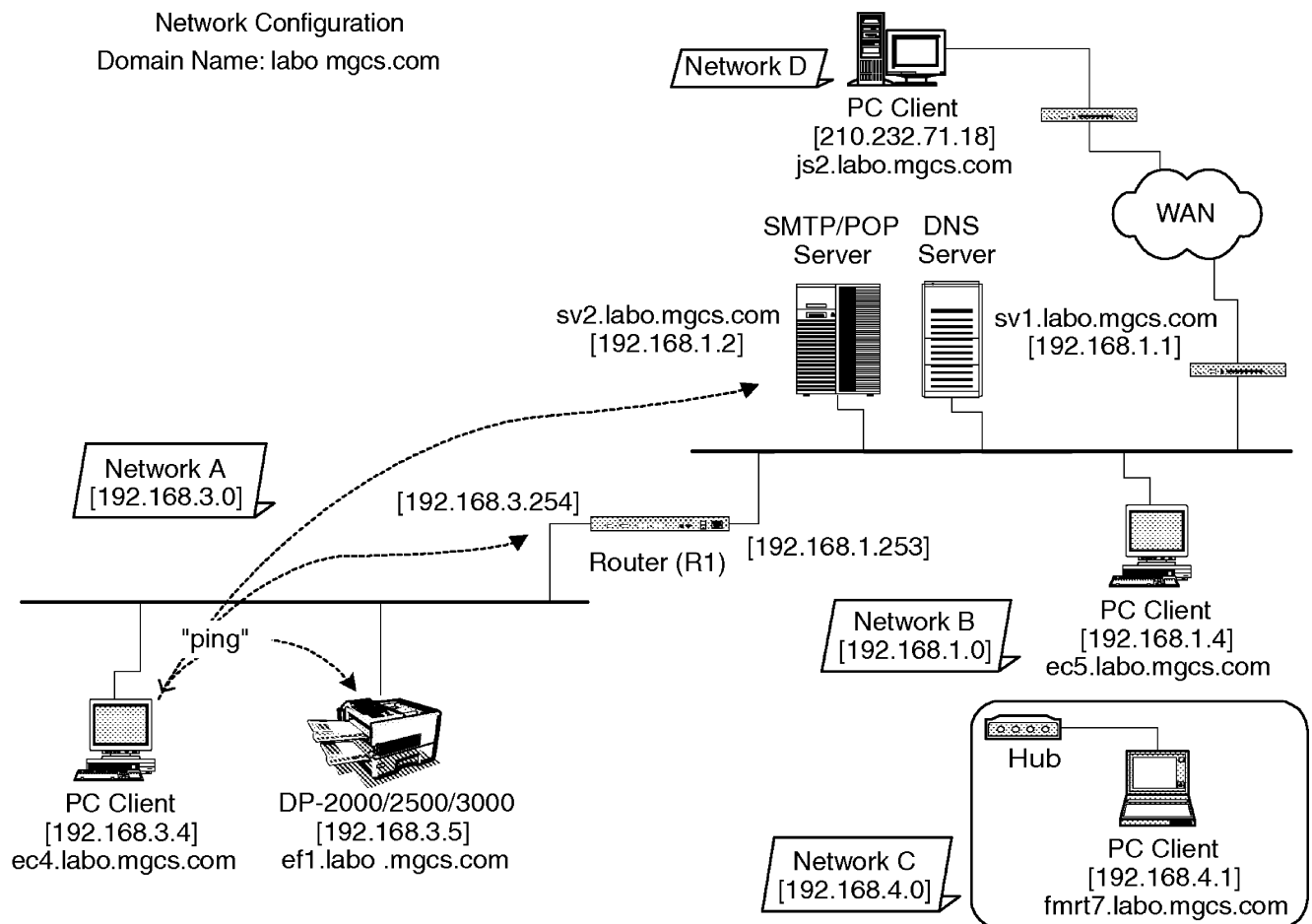
As with all networking, TCP/IP works better when its plugged in, therefore, start your troubleshooting by checking the Physical Connectivity first, the cable(s).

In our examples, we'll use several simple tools readily available in the DOS command-line utility for troubleshooting. There are many other utilities available for checking more detailed information, some are Free of charge, others are available for a nominal fee.

##### 1. System Diagram Model

Ask the customer to provide you with the Pre-Installation Information form, that was filled out by the Network Administrator.

A description or system diagram for the DP-2000/2500/3000, including its physical address, email server and DNS server is required.



## 2. Checking Current Configuration

Print the current DP-2000/2500/3000 Internet Parameters configuration.

Locate a PC connected to the same Subnet Mask as the DP-2000/2500/3000, then from the DOS Prompt, type the following command-line utility: "**ipconfig /all**" for Windows NT/98 or "**winipcfg**" for Windows 95 (click on "More Info >>" button).

Verify that the displayed Network configuration on the PC, matches the following Internet Parameter settings of the DP-2000/2500/3000:

Default Router IP Address: (PC: Default Gateway Address:)

DNS Server IP Address:

Subnet Mask: (whether it is valid)

### For Windows 95

The following example shows the output after you type "winipcfg" at a command prompt:

```
C:\winipcfg
IP Configuration
        Host Name      :    ec4.labo.mgcs.com
        DNS Servers    :    192.168.1.1
        Node Type      :    Broadcast
        NetBIOS Scope ID :
        IP Routing Enabled :
        WINS Proxy Enabled :
        NetBIOS Resolution Uses DNS :    Yes
        Ethernet Adapter Information :    IBM 100/10 EtherJet PCI Adapter
        Adapter Address :    00-04-AC-EE-9C-E8
        IP Address      :    192.168.3.4
        Subnet Mask      :    255.255.255.0
        Default Gateway :    192.168.3.254
        DHCP Server      :
        Primary WINS Server :    210.232.71.18
        Secondary WINS Server :    192.168.3.2
        Lease Obtained :
        Lease Expires  :
```

### For Windows NT / 98

The following example shows the output after you type "ipconfig /all" at a command prompt:

```
C:\>ipconfig /all
Windows NT IP Configuration
        Host Name ----- :    ec4.labo.mgcs.com
        DNS Servers ----- :    192.168.1.1
        Node Type ----- :    Hybrid
        NetBIOS Scope ID ----- :
        IP Routing Enabled. ----- :    No
        WINS Proxy Enabled ----- :    No
        NetBIOS Resolution Uses DNS --- :    No

        Ethernet adapter IBMFE1----- :
        Description----- :    IBM 100/10 EtherJet PCI Adapter

        Physical Address----- :    00-04-AC-EE-9C-E8
        DHCP Enabled----- :    No
        IP Address ----- :    192.168.3.4
        Subnet Mask ----- :    255.255.255.0
        Default Gateway ----- :    192.168.3.254
        Primary WINS Server----- :    192.168.3.18
```

From the above examples, you know the Network configuration for the specified Subnet Mask is as follows: IP Address: 192.168.3.4; Subnet Mask: 255.255.255.0; Default Gateway (Default Router IP Address): 192.168.3.254; DNS Server: 192.168.1.1 and the Domain Name: labo.mgcs.com (obtained from the Host Name).

### 3. Using "PING" to Test Physical Connectivity

The Packet Internet Groper (PING) is a command-line tool included with every Microsoft TCP/IP client (any DOS or Windows client with the TCP/IP protocol installed). PING is a simple utility that is used to send a test packet to a specified IP Address or Hostname, then, if everything is working properly, the packet is echoed back (returned).

Sample command-line PINGing and parameters are shown below. There are several available options that can be specified with the PING command. However, for our examples, we will use two options (-n and -w) which are commonly used when the response from the destination location is too long.

- n *count* : The number of echo requests that the command should send. The default is four.
- w *timeout* : Specifies the period PING will wait for the reply before deciding that the host is not responding.

#### PINGing the DP-2000/2500/3000

```
C:\WINDOWS>ping ef1.labo.mgcs.com

Pinging ef1.labo.mgcs.com [192.168.3.5] with 32 bytes of data:

Reply from 192.168.3.5: bytes=32 time=5ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
```

#### PINGing the Default Gateway (Default Router IP Address)

```
C:\WINDOWS>ping 192.168.3.254

Pinging 192.168.3.254 with 32 bytes of data:

Reply from 192.168.3.254: bytes=32 time=5ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
```

#### PINGing the SMTP/POP Server

```
C:\WINDOWS>ping sv2.labo.mgcs.com

Pinging sv2.labo.mgcs.com [192.168.1.2] with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
```

If for some reason, the physical connection is missing, the echo reply will not be received from the destination and the following output is displayed:

```
C:\WINDOWS>ping fmrt7.labo.mgcs.com

Pinging fmrt7.labo.mgcs.com [192.168.4.1] with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.4.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```



If the physical destination is far and it's connected by WAN (Wide Area Network), the PING option command default value must be changed to compensate for the expected delayed response.

e.g.

- n 10 : The number of echo requests that the command should send.
- w 2000 : Specifies the period PING will wait for the reply before deciding that the host is not responding.

```
C:\WINDOWS>ping js2.labo.mgcs.com -n 10 -w 2000

Pinging js2.labo.mgcs.com [210.232.71.18] with 32 bytes of data:

Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=645ms TTL=252
Reply from 210.232.71.18: bytes=32 time=810ms TTL=252
Reply from 210.232.71.18: bytes=32 time=455ms TTL=252
Reply from 210.232.71.18: bytes=32 time=645ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=677ms TTL=252
Reply from 210.232.71.18: bytes=32 time=703ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
```

#### 4. Tracing a Packet Route

Another useful command-line utility is TRACERT, which is used to verify the route a packet takes to reach its destination. The result shows each router crossed and how long it took to get through each particular router to reach the specified destination.

The time it takes to get through a particular router is calculated three times and displayed for each router hop along with the IP Address of each router crossed. If a FQDN (Fully Qualified Domain Name) is available, it will be displayed as well.

**This utility is useful for two diagnostic purposes:**

- a. To detect whether a particular router is malfunctioning along a known path. For example, if you know that packets on a network always go through London to get from New York to Berlin, but the communication is failing. A TRACERT to the Berlin address shows all the hops up to the point where the router in London should respond. If it does not respond, the time values are shown with an asterisk (\*), indicating the packet timed out.
- b. To determine whether a router is slow and needs to be upgraded or additional routers should be installed on the network. You can determine this by simply comparing the time it takes for a packet to get through a particular router. If its return time is significantly higher than the other routers, it should be upgraded.

To use this utility, from the DOS command-line, type: `tracert <IP Address or Hostname>`

#### Tracing the Route to SMTP/POP Server

```
C:\WINDOWS>tracert sv2.labo.mgcs.com
Tracing route to sv2.labo.mgcs.com [192.168.1.2]
over a maximum of 30 hops:

  1  4 ms  2 ms  2 ms  192.168.3.254
  2  4 ms  5 ms  5 ms  sv2.labo.mgcs.com [192.168.1.2]

Trace complete.
```

## 5. Managing Network Route Tables

In the simplest case a router connects two network segments. In this model, the system used to join the two segments needs to know only about these segments.

The routing table for router R1 in this case is simple; the following table shows its key routes:

Network Address	Netmask	Gateway	Interface
192.168.3.0	255.255.255.0	192.168.3.254	192.168.3.254
192.168.1.0	255.255.255.0	192.168.1.253	192.168.1.253

When the DP-2000/2500/3000 at 192.168.3.5 attempts to communicate with the DP-2000/2500/3000 at 192.168.1.x, IP performs the AND'ing process to find two things: The local network ID is 192.168.3.0, and the destination network ID is not. This means, that the destination host is not on the local network.

IP, is responsible to find a route to the remote network, and therefore, it consults the routing table. Here, the local host normally determines that the next step in the route is the Default Gateway, and sends the packet to router R1.

The router R1, receives the packet. After determining that the packet is for another host and not the router itself, it checks the routing table. It finds the route to 192.168.1.0 and sends the packet through the interface to the DP-2000/2500/3000 at 192.168.1.x, which receives the packet. This is a simple route that took only a single hop.

When another network is added as the number of hosts grows, it gets complicated, and the systems on the most distant networks cannot communicate. When the router receives a packet in this case, it cannot find a route to the remote network. It then discards the packet and a message indicating "destination host unreachable" is sent to the originator.

Here, is where the ROUTE command-line utility is useful when dealing with more than two networks, and is used by Administrators to statically manage a route table by adding, deleting, changing and clearing the route table. It has a number of options that are used to manipulate the routing tables, some are shown below:

- **MASK**  
If this switch is present, the next parameter is interpreted as the netmask parameter.
- **Netmask**  
If included, specifies a sub-net mask value to be associated with this route entry. If not specified, it defaults to 255.255.255.255.
- **Gateway**  
Specifies the gateway.
- **METRIC**  
Specifies the metric / cost for the destination.

All symbolic names used for the destination are looked up in the network database file NETWORKS. The symbolic names for the gateway are looked up the host name database file HOSTS.

When the packet does not reach the specified destination even when the physical connection is properly made, check the registered persistent routes on the same subnet as the DP-2000/2500/3000 by typing "route print" in the DOS command-line. The output display is shown below:

```
C:\WINDOWS>route print
Active Routes:

    Network Address      Netmask          Gateway Address  Interface    Metric
    0.0.0.0              0.0.0.0         192.168.3.254   192.168.3.2   1
    127.0.0.0            255.0.0.0       127.0.0.1       127.0.0.1     1
    192.168.3.0          255.255.255.0   192.168.3.2     192.168.3.2   1
    192.168.3.2          255.255.255.255 127.0.0.1       127.0.0.1     1
    192.168.3.255       255.255.255.255 192.168.3.2     192.168.3.2   1
    224.0.0.0            224.0.0.0       192.168.3.2     192.168.3.2   1
    255.255.255.255     255.255.255.255 192.168.3.2     192.168.3.2   1
```

## 6. Host Name Query on DNS Server

Windows NT 4.0 also has a tool that enables you to test DNS to verify that it is working properly. This utility is not available on Windows 95 /98.

From the DOS command-line, type "NSLOOKUP" to display the following output:

```
C:\>nslookup
Default Server: sv1.labo.mgcs.com
Address: 192.168.1.1
```

### NS(Name Server) record in Domain

From the DOS command-line, type "Is -t NS <Domain Name>" to display the following output:

```
> Is -t NS labo.mgcs.com.
[sv1.labo.mgcs.com.]
labo.mgcs.com.      NS   server = sv1.labo.mgcs.com
```

### MX(Mail Exchange) record in Domain

From the DOS command-line, type "Is -t MX <Domain Name>" to display the following output:

```
> Is -t MX labo.mgcs.com
[sv1.labo.mgcs.com]
labo.mgcs.com.      MX   10  sv2.labo.mgcs.com
```

### A (Address) record in Domain

From the DOS command-line, type "Is -t A <Doamin Name>" to display the following output:

```
> Is -t A labo.mgcs.com
[sv1.labo.mgcs.com]
labo.mgcs.com.      NS   server = sv1.labo.mgcs.com
sv1                  A    192.168.1.1
sv2                  A    192.168.1.2
ec5                  A    192.168.1.4
ec4                  A    192.168.3.4
ef1                  A    192.168.3.5
```

(To leave from this menu, type "exit" on the command-line)

## 7. Testing DP-2000/2500/3000 Using the TELNET Command

TELNET is a terminal emulation protocol. TELNET enables PCs and workstations to function as dumb terminals in sessions with hosts on internetworks.

From Windows 95/98/NT, use the TELNET to test the communication of TCP/IP and SMTP Protocol manually to the DP-2000/2500/3000. This method eliminates the SMTP Server.

For better understanding, type "telnet" in the DOS Command-line to bring up the Telnet screen. Then, click on the Terminal menu and on Preferences, check the "Local Echo" and "Block Cursor" radio dials and click on the OK button.

Click on the Connect menu, then click on Remote System.

Enter "25" in the "Port:" field and click on Connect button.

For example,

```
C:\WINDOWS>telnet

telnet to ef1.labo.mgcs.com[192.168.3.5]

220 ef1.labo.mgcs.com DP3000 V.xx

helo
250 Hello

mail from:test
250 Sender OK

rcpt to:fax@labo.mgcs.com
250 Receipient OK

data
354 Email, end with "CRLF . CR LF"

[Press the Enter Key]
Panasonic Internet Fax
test
test
[Press the Enter Key]
[Press the Enter Key]
[Press the Enter Key]
250 OK, Mail accept

quit
221 Closing transaction channel
```

### 4.7.3. SMTP Server Reply Codes

The Simple Mail Transfer Protocol (SMTP) is independent of the particular transmission subsystem and requires only a reliable ordered data stream channel.

The SMTP design is based on the following model of communication:

- As a result of a user mail request, the sender-SMTP establishes a two-way transmission channel to a receiver-SMTP.
- The receiver-SMTP may be either the ultimate or an intermediate destination.
- The SMTP commands generated by the sender-SMTP are sent to the receiver-SMTP.
- In response to commands, the SMTP replies are sent from the receiver-SMTP to the sender-SMTP.

### SMTP Reply Codes

211 System status or system help reply  
220 <domain> Service ready  
221 <domain> Service closing transmission channel  
250 Requested mail action okay, completed  
251 User not local; will forward to <forward-path>  
354 Start mail input; end with <CRLF>.<CRLF>  
421 <domain> Service not available, closing transmission channel  
[This may be a reply to any command if the service knows it must shut down]  
450 Requested mail action not taken: mailbox unavailable  
[i.e., mailbox busy]  
451 Requested action aborted: local error in processing  
452 Requested action not taken: insufficient system storage  
500 Syntax error, command unrecognized  
[This may include errors such as command line is too long]  
501 Syntax error in parameters or arguments  
502 Command not implemented  
503 Bad sequence of commands  
504 Command parameter not implemented  
550 Requested action not taken: mailbox unavailable  
[i.e., mailbox not found, no access]  
551 User not local; please try <forward-path>  
552 Requested mail action aborted: exceeded storage allocation  
553 Requested action not taken: mailbox name not allowed  
[i.e., mailbox syntax incorrect]  
554 Transaction failed

#### 4.7.4. POP 3 (RFC1939)

##### 1. Basic Operation

Initially, the server host starts the POP3 service by listening on TCP port 110. When a client host wishes to make use of the service, it establishes a TCP connection with the server host. When the connection is established, the POP3 server sends a greeting. The client and POP3 server then exchange commands and responses (respectively) until the connection is closed or aborted.

Commands in the POP3 consist of a case-insensitive keyword, possibly followed by one or more arguments. All commands are terminated by a CRLF pair. Keywords and arguments consist of printable ASCII characters. Keywords and arguments are each separated by a single SPACE character. Keywords are three or four characters long. Each argument may be up to 40 characters long.

POP3 responses consist of a status indicator and a keyword possibly followed by additional information. All responses are terminated by a CRLF pair. Responses may be up to 512 characters long, including the terminating CRLF. There are currently two status indicators: positive ("OK") and negative ("-ERR"). Servers MUST send the "OK" and "-ERR" in upper case.

Responses to certain commands are multi-line. In these cases, which are clearly indicated below, after sending the first line of the response and a CRLF, any additional lines are sent, each terminated by a CRLF pair. When all lines of the response have been sent, a final line is sent, consisting of a termination octet (decimal code 046, ".") and a CRLF pair. If any line of a multi-line response begins with the termination octet, the line is "byte-stuffed" by pre-pending the termination octet to that line of the response.

Hence a multi-line response is terminated with the five octets "CRLF.CRLF". When examining a multi-line response, the client checks to see if the line begins with the termination octet. If so and if octets other than CRLF follow, the first octet of the line (the termination octet) is stripped away. If so and if CRLF immediately follows the termination character, then the response from the POP server is ended and the line containing ".CRLF" is not considered part of the multi-line response.

A POP3 session progresses through a number of states during its lifetime. Once the TCP connection has been opened and the POP3 server has sent the greeting, the session enters the AUTHORIZATION state. In this state, the client must identify itself to the POP3 server. Once the client has successfully done this, the server acquires resources associated with the client's maildrop, and the session enters the TRANSACTION state. In this state, the client requests actions on the part of the POP3 server. When the client has issued the QUIT command, the session enters the UPDATE state. In this state, the POP3 server releases any resources acquired during the TRANSACTION state and says goodbye. The TCP connection is then closed.

A server MUST respond to an unrecognized, unimplemented, or syntactically invalid command by responding with a negative status indicator. A server MUST respond to a command issued when the session is in an incorrect state by responding with a negative status indicator. There is no general method for a client to distinguish between a server which does not implement an optional command and a server which is unwilling or unable to process the command.

A POP3 server MAY have an inactivity autologout timer. Such a timer MUST be of at least 10 minutes' duration. The receipt of any command from the client during that interval should suffice to reset the autologout timer. When the timer expires, the session does NOT enter the UPDATE state--the server should close the TCP connection without removing any messages or sending any response to the client.

## 2. POP3 Command Summary

### Minimal POP3 Commands:

USER name	valid in the AUTHORIZATION state
PASS string	
QUIT	

STAT	valid in the TRANSACTION state
LIST [msg]	
RETR msg	
DELE msg	
NOOP	
RSET	
QUIT	

### Optional POP3 Commands:

APOP name digest	valid in the AUTHORIZATION state
------------------	----------------------------------

TOP msgn	valid in the TRANSACTION state
UIDL [msg]	

### POP3 Replies:

+OK  
-ERR

Note that with the exception of the STAT, LIST, and UIDL commands, the reply given by the POP3 server to any command is significant only to "+OK" and "-ERR". The client may ignore any text occurring after this reply.

#### 4.7.5. Troubleshooting with Information Codes

The displayed 3-digit information codes, show the unit's status. These codes are also printed on the journal. The following table indicates the appropriate sections for troubleshooting.

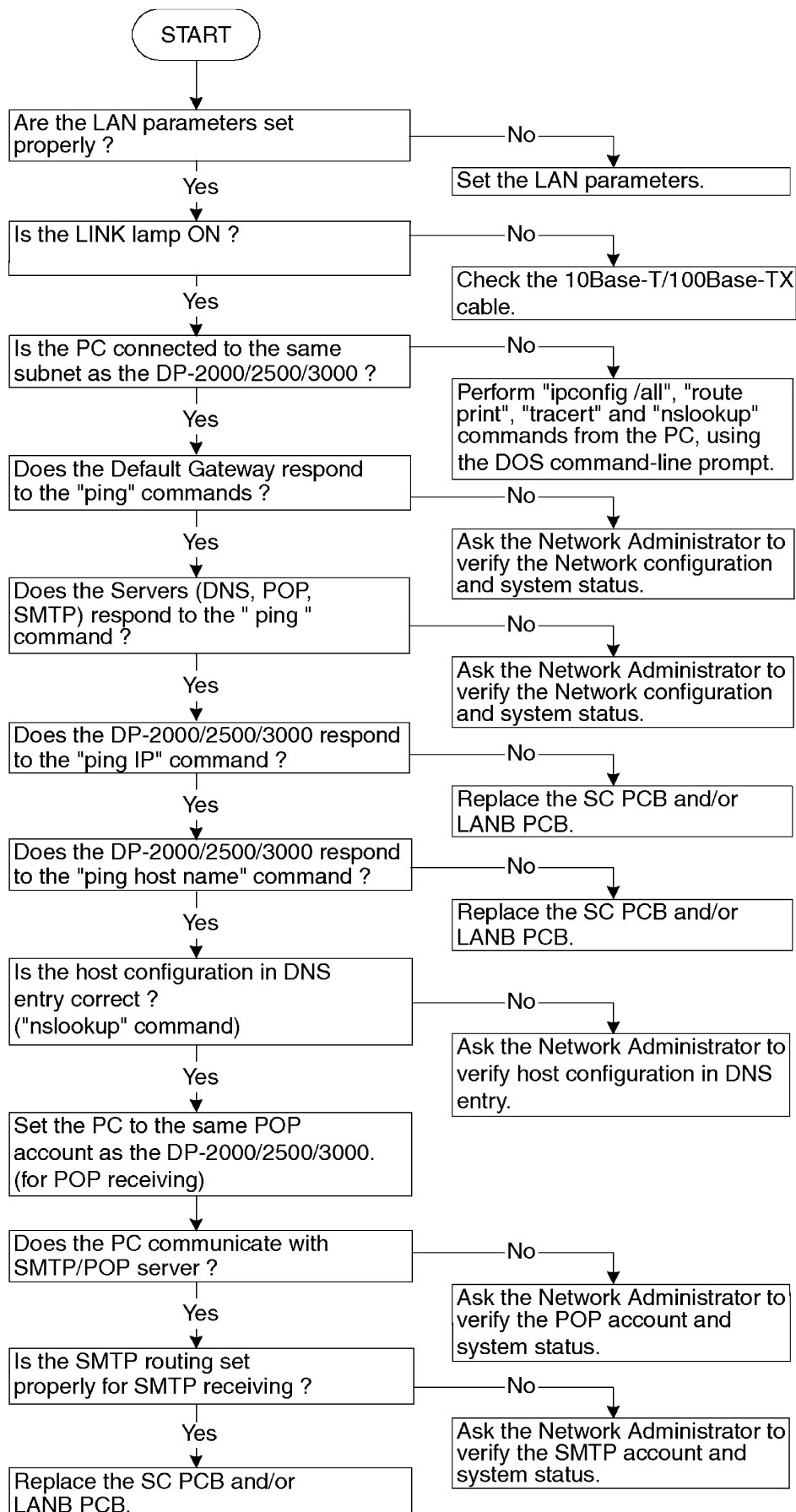
Information Codes (SMTP INFO. CODES)			
Code	Mode	Explanation	Timer/SMTP Reply Code
710	XMT/RCV	Command response between SC PCB and LANB PCB timed out	While the TCP connection was open
712	XMT	Unknown email address replied from the Mail Server	SMTP Command Reply to "RCPT TO:"
713	XMT/RCV	Memory overflow in the LAN Interface. (Document data exceeded 1.6 Mbyte/page and cannot be sent)	Data Block
714	XMT	LAN Interface error. Cannot logon to the LAN Timeout (no reply from the mail server), 3 min	Data Block
715	XMT	TCP/IP connection timed out, 3 min	Data Block
716	XMT	Cannot logon to the LAN (Connection error, 4 min)	TCP 3 way Handshake
717	XMT/RCV	Incomplete SMTP protocol transmission	Data Block
719	RCV	Received data via LAN is in a format that is not supported (non-TIFF file)	After the TCP connection was closed
725	XMT	DNS Server connection timed out	Opening session
726	XMT	Protocol error, received an error response from the DNS Server	Opening session
730	RCV	Fax protocol error, unable to program the Internet Parameters or the Autodialer with Email from a PC	- - -
731	RCV	Fax protocol error. Dialer full while Relayed Transmission Request was received	- - -
870	RCV	Fax memory overflow occurred while storing documents into memory	SMTP Command Reply



Information Codes (POP3 INFO. CODES)		
Code	Explanation	State
710	Command response between SC PCB and LANB PCB timed out	While the TCP connection was open
713	Memory overflow in the LAN Interface. (Document data exceeded 1.6 Mbyte/page and cannot be sent)	Transaction
714	LAN Interface error. Cannot logon to the LAN Timeout (no reply from the mail server), 3 min	Transaction
715	TCP/IP connection timed out, 3 min	Transaction
717	Incomplete POP3 protocol transmission	Transaction
719	Received data via LAN is in a format that is not supported (non-TIFF file)	Update
720	Unable to connect with the POP Server. Protocol error (incorrect POP Server address)	Authorization
721	Unable to login to the POP Server. Protocol error (incorrect User Name or Password is set)	Authorization
725	DNS Server connection timed out	Opening session
726	Protocol error, received an error response from the DNS Server	Opening session
730	Fax protocol error, unable to program the Internet Parameters or the Autodialer with Email from a PC	Transaction
731	Fax protocol error. Dialer full while Relayed Transmission Request was received	Transaction
870	Fax memory overflow occurred while storing documents into memory	Transaction

#### 4.7.6. Information Codes: 710, 712, 714, 715, 716, 717, 718, 719, 720, 721, 725, 726, 730 and 731 (Troubleshooting Internet Communication Problems)

##### Troubleshooting with Information Codes



## 4.8. Error Codes (For Copier)

The self-diagnostic functions detect troubles in the important components of the copier.  
When any trouble occurs, the copier stops.

### 4.8.1. User Error Codes (U Code)

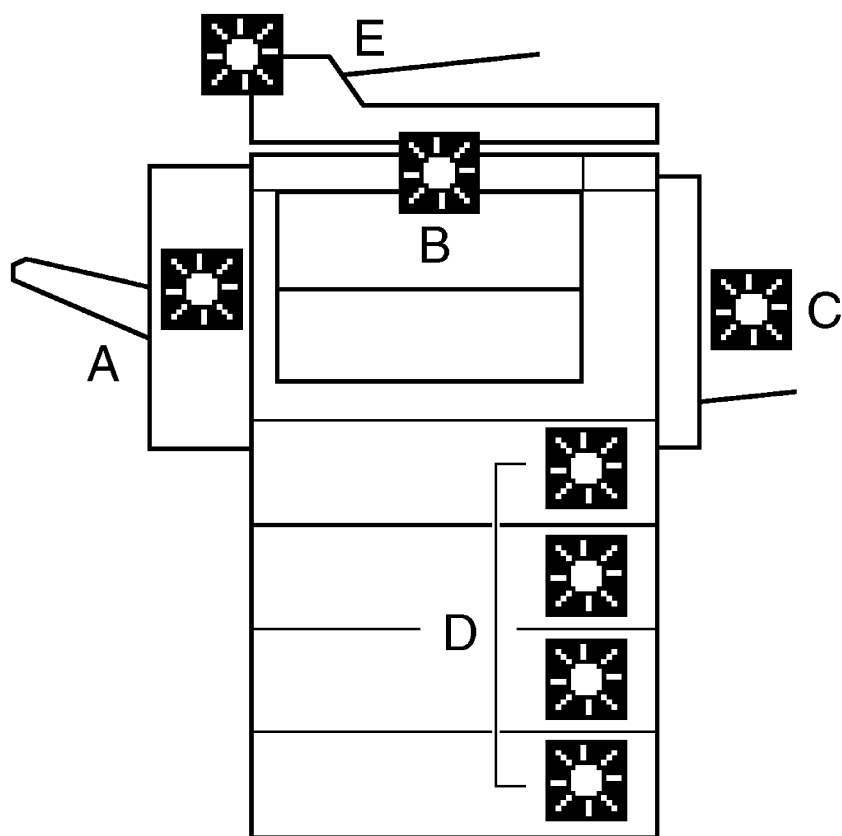
**Note:**

Uxx and a message will appear on the Panel Display.

User Error Codes (U Code) Table		
Code	Item	Check Points
U01	CLOSE FRONT COVER	<ol style="list-style-type: none"><li>1. Front Cover is open.</li><li>2. Front Cover Sensor is disconnected.</li><li>3. Front Cover Sensor is defective</li><li>4. LVPS connector is disconnected.</li><li>5. LVPS is defective.</li><li>6. LPC PCB connector (CN708) is disconnected.</li><li>7. LPC PCB is defective.</li></ol>
U06	CLOSE RIGHT COVER	<ol style="list-style-type: none"><li>1. Right Cover is open.</li><li>2. Right Cover Sensor is disconnected.</li><li>3. Right Cover Sensor is defective.</li><li>4. LVPS connector is disconnected.</li><li>5. LVPS is defective.</li><li>6. EXFD PCB connector (CN794) is disconnected.</li><li>7. EXFD/LPC PCB is defective.</li></ol>
U07	CLOSE FEED COVER	<ol style="list-style-type: none"><li>1. Feed Cover is open.</li><li>2. Feeder Unit is incorrectly installed.</li><li>3. Feeder Unit connector is disconnected.</li><li>4. Feeder Unit Sensor is disconnected.</li><li>5. Feeder Unit Sensor is defective.</li><li>6. LVPS connector is disconnected.</li><li>7. LVPS is defective.</li><li>8. CST2/CST3 PCB connector(s) (CN778/802) are disconnected.</li><li>9. CST2/CST3 PCB is defective.</li></ol>
U08	CLOSE TRANSPORT UNIT	<ol style="list-style-type: none"><li>1. Paper Transport Unit is open.</li><li>2. Paper Transport Unit Sensor is disconnected.</li><li>3. LVPS connector is disconnected.</li><li>4. LVPS is defective.</li><li>5. LPC PCB connector (CN712) is disconnected.</li><li>6. LPC PCB is defective.</li></ol>
U11	CLOSE FINISHER	<ol style="list-style-type: none"><li>1. Finisher is open.</li><li>2. Paper is in the output bin.</li><li>3. Stapler is empty.</li><li>4. LVPS connector is disconnected.</li><li>5. LVPS is defective.</li><li>6. HTC PCB connector (CN730) is disconnected.</li><li>7. IPC/LPC PCB is defective.</li></ol>
U13	ADD TONER NO WASTE TONER BOX	<ol style="list-style-type: none"><li>1. Toner Cartridge is incorrectly installed.</li><li>2. Low Toner.</li><li>3. Toner Sensor is disconnected.</li><li>4. Toner Sensor is defective.</li><li>5. LVPS connector is disconnected.</li><li>6. LVPS is defective.</li><li>7. LPC PCB connector (CN705) is disconnected.</li><li>8. LPC PCB is defective.</li></ol>

User Error Codes (U Code) Table		
Code	Item	Check Points
U20	CLOSE ADF COVER	1. ADF Cover is open. 2. ADF is not installed correctly. 3. ADF Cover Sensor is disconnected. 4. ADF Cover Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective.
U21	CLOSE PLATEN COVER	Platen Cover is opened while scanning from ADF.
U22	CLOSE ADF EXIT COVER	1. ADF Exit Cover is open. 2. ADF is incorrectly installed. 3. ADF Exit Cover Sensor is disconnected. 4. ADF Exit Cover Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective.
U90	REPLACE BATTERY	Backup Battery is wearing out.

4.8.2. Jam Error Codes (J Code)



Section	Jam Location
A	Finisher
B	Paper transport area
C	Paper entry area
D	Paper feed unit
E	ADF/i-ADF

**Jam Error Codes (J Codes) Table**

<b>Code</b>	<b>Contents</b>	<b>Section</b>
J00	The Registration Sensor did not detect paper within a predetermined time after paper started feeding. (Sheet Bypass)	C
J01	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating. (1st Feeder Unit)	D
J02	The 2nd Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (2nd Feeder Unit)	D
J03	The 3rd Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (3rd Feeder Unit)	D
J04	The 4th Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (4th Feeder Unit)	D
J07	The Registration Sensor did not detect paper within a predetermined time after paper feed from 2nd Feeder Unit. (2/3/4 Feeder Unit)	D
J08	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating on the 3rd Feeder Unit. (3/4 Feeder Unit)	D
J09	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating on the 4th Feeder Unit. (4th Feeder Unit)	D
J12	The 2nd Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	D
J13	The 3rd Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	D
J14	The 4th Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	D
J22	The 2nd Registration Sensor detect paper at the time of the initials.	D
J23	The 3rd Registration Sensor detect paper at the time of the initials.	D
J24	The 4th Registration Sensor detect paper at the time of the initials.	D
J30	The Registration Sensor did not detect no paper within a predetermined time.	C
J33	The Registration Sensor detect paper at the time of the initials.	C, D
J34	The Registration Sensor did not detect paper within a predetermined time after Sensor 4 of Automatic Duplex Unit is ON.	C
J40	The eject paper Sensor does not detect paper within a predetermined time after Registration Sensor is ON.	C
J41	The eject paper Sensor does not detect no paper within a predetermined time after eject paper Sensor is ON.	C
J42	The Paper Exit Sensor detects paper when machine is standby.	C
J45	The Paper Exit Sensor of dual-path exit guide unit does not detect paper within a predetermined time after Registration Sensor is ON.	C
J46	The Paper Exit Sensor of dual-path exit guide unit is not OFF within a predetermined time.	C
J47	The Paper Exit Sensor of dual-path exit guide unit detects paper when machine is standby.	C
J50	The Paper Transport Unit Sensor 1 does not detect paper within a predetermined time after eject paper Sensor of dual-path exit guide unit is ON.	C
J51	The Paper Transport Unit Sensor 2 does not detect paper within a predetermined time after eject paper Sensor of dual-path exit guide unit is ON.	B
J52	The Paper Transport Unit Sensor 3 does not detect paper within a predetermined time after eject paper Sensor of dual-path exit guide unit is ON.	B
J53	The Paper Transport Unit Sensor 4 does not detect paper within a predetermined time after eject paper Sensor of dual-path exit guide unit is ON.	B

Jam Error Codes (J Codes) Table		
Code	Contents	Section
J55	The Paper Transport Unit Sensor 1 is not OFF within a predetermined time.	B
J56	The Paper Transport Unit Sensor 2 is not OFF within a predetermined time.	B
J57	The Paper Transport Unit Sensor 3 is not OFF within a predetermined time.	B
J58	The Paper Transport Unit Sensor 4 is not OFF within a predetermined time.	B
J59	The Paper Transport Unit Sensor detects paper when machine is standby.	B
J60	The Finisher Registration Sensor did not detect paper within a predetermined time after eject paper Sensor is ON.	A
J61	The stapler is not activated correctly.	A
J62	The Finisher Registration Sensor detects no paper within a predetermined time after Finisher Registration Sensor is ON.	A
J63	The Finisher Registration Sensor detects paper when machine is standby.	A
J64	The Finisher is disconnected during printing.	A
J65	Paper multi-feed.	A
J66	Finisher Aligning Guide is not activated correctly.	A
J67	Finisher Return Roller is not activated correctly.	A
J70	Read Point Sensor does not go ON within 10 seconds after the original starts feeding. (Information Code 030 is printed on the Transaction Journal instead.)	E
J71	Original was longer than 78.7 in (2m). (Information Code 031 or 032 is printed on the Transaction Journal instead.)	E
J80	The Automatic Duplex Unit Sensor 1 does not detect paper within a predetermined time.	B
J81	The Automatic Duplex Unit Sensor 2 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 1 is ON.	C
J82	The Automatic Duplex Unit Sensor 3 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 2 is ON.	C
J83	The Automatic Duplex Unit Sensor 4 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 3 is ON.	C
J84	The Automatic Duplex Unit Sensor 1 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 1 is ON.	C
J85	The Automatic Duplex Unit Sensor 2 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 2 is ON.	C
J86	The Automatic Duplex Unit Sensor 3 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 3 is ON.	C
J87	The Automatic Duplex Unit Sensor 4 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 4 is ON.	C
J88	The Automatic Duplex Unit Sensor 1 detects paper when machine is standby.	C
J89	The Automatic Duplex Unit Sensor 2, 3 or 4 detects paper when machine is standby.	C
J90	A PRINT signal is not received within 1 minute after the FEED signal is received.	-
J91	A Paper Tray is pulled out when feeding a paper.	-

#### 4.8.3. Mechanical Error Codes (E Code)

E1: Optical Unit Error		
Code	Function	Check Points
E1- 20	Laser Unit horizontal synchronization	<ol style="list-style-type: none"> <li>1. LPC PCB connector(s) is disconnected.</li> <li>2. LPC PCB is defective.</li> <li>3. LSU is defective.</li> <li>4. LVPS connector is disconnected.</li> <li>5. LVPS is defective.</li> <li>6. LPC/SC PCB connector (CN701/110) is disconnected.</li> <li>7. SC/LPC PCB is defective.</li> </ol>
E1- 22	Polygon Motor synchronization	<ol style="list-style-type: none"> <li>1. LPC PCB connector is disconnected.</li> <li>2. LPC PCB is defective.</li> <li>3. Laser Unit is defective.</li> <li>4. LVPS connectors is disconnected.</li> <li>5. LVPS is defective.</li> <li>6. LPC/SC PCB connector (CN701/110) is disconnected.</li> <li>7. SC PCB is defective.</li> </ol>

E2: Lift DC Motor Error		
Code	Function	Check Points
E2	Not Applicable	-

E3: Development System Error		
Code	Function	Check Points
E3- 20	Printer Motor (DC Motor) rotation	<ol style="list-style-type: none"> <li>1. Printer motor connector is disconnected.</li> <li>2. Printer motor is defected.</li> <li>3. LVPS connector is disconnected.</li> <li>4. LVPS is defective.</li> <li>5. LPC PCB connector (CN714/723) is disconnected.</li> <li>6. LPC PCB is defective.</li> </ol>

E4: Fuser Unit Error		
Code	Function	Check Points
E4- 01	Fuser warm-up temperature	<ol style="list-style-type: none"> <li>1. Fuser Thermistor is dirty.</li> <li>2. Thermistor position is incorrect.</li> <li>3. Fuser temperature is low. (Adjust F6-31)</li> <li>4. Thermistor is defective.</li> <li>5. Fuser Lamp connector is disconnected.</li> <li>6. Fuser Thermostat is defective.</li> <li>7. Fuser Lamp is defective.</li> <li>8. HTC PCB connector (CN716) is disconnected.</li> <li>9. HTC PCB is defective.</li> </ol>
E4- 02	Paper Jam	<ol style="list-style-type: none"> <li>1. Paper Jam in Fuser Unit.</li> </ol>
E4- 10	Exhaust Fan Motor rotation (Fuser Unit side)	<ol style="list-style-type: none"> <li>1. Exhaust Fan connector is disconnected.</li> <li>2. Exhaust Fan is defective.</li> <li>3. LVPS connector is disconnected.</li> <li>4. LVPS is defective.</li> <li>5. LPC PCB is defective.</li> </ol>



<b>E5: System Error</b>		
<b>Code</b>	<b>Function</b>	<b>Check Points</b>
E5- 11	Thermistor, Toner Sensor	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.
E5- 12	Main CPU/LPC Interface Error	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.
E5- 13	LPC System Error	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.
E5- 14	Option Installation Error	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.
E5- 15	Mechanical Total Counter Not Installed	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.
E5- 22	Finisher communication	1. SC/LPC PCB connector is disconnected. 2. SC/LPC PCB is defective.

<b>E7: Optional Unit Error</b>		
<b>Code</b>	<b>Function</b>	<b>Check Points</b>
E7- 10	Sub CPU System error	SC PCB is defective.
E7- 11	Abnormal Platen Glass scanning	SC PCB is defective.
E7- 12	Xenon Lamp is disconnected	SC PCB is defective.
E7- 20	Finisher Paper Transport Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB connector is disconnected. 6. LPC PCB connector (CN731) is disconnected. 7. LPC/IPC PCB is defective.
E7- 21	Finisher Paper Exit Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB is disconnected. 6. LPC PCB connector (CN 731) is defective. 7. LPC PCB is defective.
E7- 22	Finisher Damper Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB connector is defective. 6. LPC PCB connector (CN731) is disconnected. 7. LPC/IPC PCB is defective.
E7- 23	Finisher Staple Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB connector is disconnected. 6. LPC PCB connector (CN731) is disconnected. 7. LPC/IPC PCB is defective.

<b>E7: Optional Unit Error</b>		
<b>Code</b>	<b>Function</b>	<b>Check Points</b>
E7- 27	Finisher Tray Shift Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN 65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB connector is disconnected. 6. LPC PCB connector (CN731) is disconnected. 7. LPC/IPC PCB is defective.
E7- 28	Finisher Bundling Process Motor	1. Motor connector is disconnected. 2. Motor is defective. 3. LVPS connector (CN65/66) is disconnected. 4. LVPS is defective. 5. IPC PCB connector is disconnected. 6. LPC PCB connector (CN731) is disconnected. 7. LPC/IPC PCB is defective.

**Note :**

These error codes will appear only when the optional accessories are installed. Refer to Optional Unit Service Manuals.

<b>E13: Out of Toner</b>		
<b>Code</b>	<b>Function</b>	<b>Check Points</b>
E13	Toner Sensor	1. Toner Cartridge is not installed correctly. 2. Out of Toner. 3. Toner Sensor is disconnected. 4. Toner Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective. 7. LPC PCB connector (CN705) is disconnected. 8. LPC PCB is defective.

## 4.9. Information Codes Table (For Facsimile)

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
200	RCV	C	Decoding process is not completed at the end of phase C.	Defective SC PCB.
212	XMT RCV	A-E	Interface error occurred between the CPU and modem.	Modem is defective. (SC PCB) Software problem occurred. (SC PCB)
301	XMT RCV		System fault.	Software problem occurred. (SC PCB)
331	XMT	C	8-minutes timer error. (Germany only)	
360	-	-	Incomplete initialization for EP PCB.	EP PC Board incorrectly installed on the SC PC Board. FRM PC Board incorrectly installed on the EP PC Board. Defective EP PC Board. Defective FRM PC Board. Defective SC PC Board.
361	-	-	DPRAM (Dual Port RAM) initialization error on EP PCB.	EP PC Board incorrectly installed on the SC PC Board. FRM PC Board incorrectly installed on the EP PC Board. Flash ROM on the FRM PC Board is blank. Defective EP PC Board. Defective FRM PC Board. Defective SC PC Board.
362	-	-	Command Sequence Error.	Software problem occurred. (SC/FRM PCB)
400	XMT	B	T1 timer (35±5 sec) elapsed without detecting 300 bps signal.	Wrong number is dialed and the START button is pushed. Telephone line is disconnected while dialing. SC PCB (Modem) or LCU/LCE PCB is defective. Receiver is defective. (It may only be transmitting CED)
401	XMT	B	DCN was returned from receiver while transmitter is waiting for CFR or FTT.	Your machine's ID Number is not programmed. Possible incompatibility or incorrect Password (Password Reception, Selective Receive). Mailbox is full.
402	XMT	B	DCN was returned from receiver while transmitter is waiting for NSF/DIS.	Receiver working in non-CCITT mode only. (Possible incompatibility)
403	RCV (Polling)	B	Transmitter had no polling function.	"POLLED=ON" (polling XMT ready) is not set at the transmitter. Document to be transmitted is not placed at the transmitter.

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
404	XMT	B	Transmitter sent NSS (or DCS) followed by TCF three times, but the receiver did not respond. (CFR or FTT is usually returned)	Receiver is defective. (Modem, LCU/ LCE PCB, etc.) SC PCB or LCU/LCE PCB is defective. Receiver disconnects line during first NSS (or DCS) is transmitted.
405	XMT	B	Transmitter received FTT after it transmitted TCF at 2400bps. Received RTN after communicating at 2400 bps.	Line quality is poor. (TCF is damaged due to line noise) Receiver is defective. (Modem, LCU/ LCE PCB, etc.) SC PCB or LCU/LCE PCB is defective.
406	RCV (Password Comm.)	B	XMT-Password mismatched. RCV-Password mismatched. Selective RCV incomplete.	XMT, RCV password does not match. Last 4 digits of TSI does not match with the last 4 digits of Auto Dial telephone number.
407	XMT	D	Transmitter received no response after it transmitted post message, such as EOP, MPS, EOM, etc...or received DCN.	Receiver is defective. (No paper, paper jamming, etc.) Receiver ceased receiving because of excessive error. (Line quality is poor) SC PCB (Modem) or LCU/LCE PCB is defective.
408	XMT	D	Transmitter received RTN after it transmitted EOP, MPS, or EOM.	Receiver receives data with error. (Line quality is poor) Receiver is defective. (Modem, LCU/ LCE, etc.) SC PCB or LCU/LCE PCB are defective.
409	XMT	D	Transmitter receives PIN after it transmitted a post message, such as EOP, MPS, EOM, etc.	Receiver receives data with error due to poor line quality, and receiving operator requests voice contact. Receiver is defective. (Modem, LCU/ LCE, etc.) SC PCB or LCU/LCE PCB are defective.
410	RCV	D	Received DCN while waiting for post command. (EOP, MPS, EOM, etc.)	Interface or line is faulty. Transmitter is defective.
411	RCV (Polling)	B	Received DCN after transmitting NSC.	Transmitter is not ready for polling communication. Password does not match between transmitter and receiver.
412	G3 RX	B, D	No response within 12 seconds in NSS/DCS/MPS wait state. (After transmitting FTT)	Transmitter is defective. SC PCB is defective.
414	RCV (Polling)	B	No response received after transmitting 3rd NSC.	Password does not match between transmitter and receiver. Transmitter is defective. (No original, document jam, etc.)
415	XMT (Polling)	B	Remote side attempted to receive message from your machine in polling communication.	Inform the remote side that your machine does not have the polling transmission feature.

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
416	RCV	D	Receiver did not detect post command, such as EOP, MPS, EOM, etc.	Transmitter is defective. Line quality is poor. (RTC signal is distorted due to line noise) SC PCB or LCU/LCE PCB are defective.
417	RCV	C	Receiver returned RTN in response to post message.	Line quality is poor. (There are excessive errors in received data) SC PCB or LCU/LCE PCB are defective.
418	RCV	C	Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact)	Line quality is poor. (There are excessive errors in received data) SC PCB or LCU/LCE PCB are defective.
420	RCV	B	T1 timer (35 sec.) elapsed without detecting 300 bps signal.	There is wrong incoming call.(non-facsimile communication) Transmitter is defective. SC PCB or LCU/LCE PCB is defective.
421	RCV	B	Busy Tone is detected after sending NSF Signal.	Remote station disconnected the line. Wrong number is dialed.
422	XMT	B	Content of NSF (or DIS) or NSC (or DTC) was invalid.	There is an incompatibility.
427	G3 RCV	B	DCN received to NSF/CSI/DIS transmitted.	The interface is incompatible.
433	XMT RCV	B, D	T.30 Protocol abnormal.	Defective remote station.
434	XMT or RCV	B	CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.	Remote unit is defective. SC PCB or LCU/LCE PCB is defective.
436	G3 RX	C	DCN received after transmitting FTT.	Transmitter is defective or incompatible. Line quality is poor.
456	RCV	B	Received relay transfer request or confidential document to distribute to an end receiving station or all confidential mailboxes are used.	
457	RELAY XMT CONF. XMT/ POLL	B	Remote unit does not have Relayed XMT or Confidential Comm. capability.	
459	RCV	C	Failed training in Phase C.	Line quality is poor. (Training signal is distorted due to line noise) SC PCB or LCU/LCE PCB are defective.
490	RCV	C	Sum of error lines exceeded the limit (Function Parameter No. 70) of 64 lines.	Line quality is poor. SC PCB or LCU/LCE PCB are defective.
494	RCV	C	Interval between two EOLs was more than 10 sec. when receiver received message data.	Transmitter is defective. Line quality is poor. (EOL is damaged due to line noise) SC PCB or LCU/LCE PCB are defective.

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
495	XMT RCV	C	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. SC PCB or LCU/LCE PCB are defective.
496	XMT	C	CS of modem is not able to turn ON.	SC PCB is defective.
501	XMT/ RCV(V.34)	B	Remote unit does not have compatible Modem.	
502	XMT/ RCV(V.34)	B, C, D	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. SC PCB or LCU/LCE PCB are defective.
503	XMT/ RCV(V.34)	B, C, D	CS of modem is not able to turn ON during training.	SC PCB is defective. Line is disconnected.
504	RCV/V.34 (Polling)	B	Polling is rejected from the remote station.	No polling original is set.
505	XMT/V.34 (Polling)	B	Polling XMT is rejected.	No polling original is set.
540	XMT ECM	B	No response after transmitting 3rd CTC or DCN received.	Incompatible interface.
541	XMT ECM	D	No response after transmitting 3rd EOR or received DCN.	Line is faulty. LCU/LCE PCB abnormal.
542	XMT ECM	D	No response to the 3rd RR transmitted or received DCN.	Remote unit is abnormal.
543	XMT ECM	D	T5 timer (60 sec.) elapsed without MCF.	Remote unit is abnormal.
544	XMT ECM	D	Stopped Transmission after EOR Transmission.	Line is faulty. LCU/LCE PCB abnormal.
550	RCV ECM	C	Timer between frames in phase C has elapsed.	Defective remote station.
554	RCV ECM	D	Transmitted ERR after receiving EOR.	Faulty line.
555	RCV ECM	D	Transmitted PIN after receiving EOR.	Faulty line and Operator Call requested by RX side.
570	RCV	B	Password or machine code did not match during remote diagnostic communication.	
571	XMT	B	Remote unit did not have the remote diagnostic function.	
580	XMT	B	Sub-address transmission to a unit that has their DIS bit 49 (NSF bit 155) OFF.	Sub-address transmission to a unit that has no Sub-address function.
581	XMT	B	Sub-address Password transmission to a unit that has their DIS bit 50 (NSF bit 156) OFF.	Sub-address transmission to a unit that has no Sub-address function.
601	XMT		ADF Door was opened during ADF transmission.	
623	XMT	A	No original was in the ADF. (Built-in dialer engaged)	Operator removed the original from the ADF after dialing was completed. Original was not set properly in the ADF.

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
630	XMT or RCV (Polling)	B	Redial count over.	No dial tone detected. Sensor dial tone is not detected. (country dependent) Busy tone is detected. (country dependent) T1 timer (35±5 sec) elapsed without a signal from the receiver.
631	XMT	A	"STOP" button was pressed during Auto Dialing.	
634	XMT		Redial count over with no response or busy tone was not detected. <b>Note:</b> U.S.A. and Canadian models will redial only once if a busy tone is not detected.	
638	XMT		Power turned off with applicable data in memory or during communication.	Power switched off. Power failure occurred.
710	XMT RCV	LAN	Command Response between LANC/LANB PCB timed out.	Defective LANC/LANB PCB.
712	XMT	LAN	Unknown email address replied from the Mail Server.	Mail Server received an incorrect email address. (Dependent on Server's Mail application)
713	XMT	LAN	Memory overflow in the LAN Interface.	The document data exceeded 1.6 Mbyte/page and cannot be sent.
714	XMT RCV	LAN	LAN Interface error. Cannot logon to the LAN.	The 10Base-T cable is not connected. An unexpected LAN problem occurred. Check the LANC/LANB PCB connector.
715	XMT	LAN	TCP/IP connection timed out.	Incorrect IP Address is set. Verify the IP Address, Default Router IP Address, SMTP Server IP Address.
716	XMT	LAN	Cannot logon to the LAN.	Incorrect SMTP Server IP Address is set. No email application is activated on the Mail Server.
717	XMT	LAN	Incomplete SMTP Protocol transmission.	Mail Server's hard disk may be full. Mail Server is defective.
718	XMT	LAN	Page Memory Overflow occurred while receiving printing data. The paper size selected within your application to print is larger than the paper size loaded in the cassette(s).	Check the document size and resolution. Ask originator to re-send in a supported size and resolution.
719	RCV	LAN	Received data via LAN is in a format that is not supported.	Ask the originator to re-send with a supported file attachment: * In a TIFF-F format. * Image data conforming to A4/Letter size.
720	POP	LAN	Unable to connect with the POP Server.	Incorrect POP Server address is set. POP Server is down.
721	POP	LAN	Unable to login to the POP Server.	Incorrect User Name or Password is set.
725	XMT POP	LAN	DNS Server connection timed out.	Incorrect DNS Server address is set. DNS Server is down.

Fax Information Codes				
Code	Mode	Phase	Description of Problem	Cause
726	XMT POP	LAN	Received an error response from the DNS Server.	Incorrect POP Server address is set. Incorrect SMTP Server address is set.
730	RCV	LAN	Unable to program the Internet parameters or the autodialer with Email from a PC.	Verify that the Fax Parameter #158 is set to 2: Valid.
731	RCV	LAN	Dialer full while Relayed Transmission Request was received.	Dial buffer for manual number dialing (70 stations) are being used.
741	XMT, Polling		Unable to dial	Deleted the registered station name before dialing with Timer Controlled Communications, etc.
800	Relay Comm.		The machine was requested to relay a document but has no Relay Hub capability.	
814	Conf. XMT Conf. Polling Relay Comm.		The remote station does not have Relay XMT nor Confidential Communication capability.	
815	Conf. RCV		Mailbox is full.	
816	Conf. Polled		The received Polling Password did not match.	
825	Conf. RCV Conf. Polled		Parameter settings of the remote station are not properly set.	
870	MEM XMT Multi-Copy		Memory overflow occurred while storing documents into memory.	
879	Memory RCV	PSTN	Memory overflow occurred during substitute memory reception.	
		LAN	Memory overflow. Mail Server sent a reset command while downloading the data to the machine.	Memory overflow on the Fax side. Mail server aborted the download (Busy with other higher priority jobs).
880	-	-	File Access Error.	
884	-	-	File Access Error.	
961	RCV	LAN	Memory file access error.	SC PCB is defective.
962	XMT	PSTN	Memory file access error.	SC PCB is defective.
		LAN	Memory file access error.	SC PCB is defective.



## 4.10. Diagnostic Codes (For Facsimile)

The 13-digit Diagnostic Code is provided for the service engineer to analyze how the communication was performed. The code is recorded on the Journal.

### Journal Example

***** -JOURNAL- ***** DATE MAR-15-2000 ***** TIME 09:39*****												
NO.	COMM.	PAGES	FILE	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC			
01	OK	001	129	00:00'42	XMT	123 456 789	MAR-15	01:55	C8649003C0000			
									1st digit		13th digit	
-----												
- PANASONIC PANAFAX DP-2500												
***** - PANAFAX DP-2500- ***** -12345678901234567890- *****												

### 1st Digit: Manufacturer Code

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Manufacturer Code			
0	-			
1	Casio			
2	Canon			
3	Sanyo			
4	Sharp			
5	Tamura			
6	Toshiba			
7	NEC			
8	Oki			
9	Hitachi			
A	Xerox			
B	Fujitsu			
C	Matsushita			
D	Mitsubishi			
E	Murata			
F	Ricoh			

**2nd Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	ID (TSI, CSI, CIG)	RTN	DCN	STOP Button
0	-	-	-	-
1	Received	-	-	-
2	-	Received	-	-
3	Received	Received	-	-
4	-	-	Received	-
5	Received	-	Received	-
6	-	Received	Received	-
7	Received	Received	Received	-
8	-	-	-	Pressed
9	Received	-	-	Pressed
A	-	Received	-	Pressed
B	Received	Received	-	Pressed
C	-	-	Received	Pressed
D	Received	-	Received	Pressed
E	-	Received	Received	Pressed
F	Received	Received	Received	Pressed

**3rd Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Resolution (dpi)	Paper Width		
0	-	A4		
1	S-Fine	A4		
2	400 x 400	A4		
3	300 x 300	A4		
4	-	B4		
5	S-Fine	B4		
6	400 x 400	B4		
7	300 x 300	B4		
8	-	-		
9	-	-		
A	-	-		
B	-	-		
C	-	A3		
D	S-Fine	A3		
E	400 x 400	A3		
F	300 x 300	A3		

**4th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Scanning Rate	Resolution		
0	20 ms/line	Std		
1	5 ms/line	Std		
2	10 ms/line	Std		
3	-	Std		
4	40 ms/line	Std		
5	-	Std		
6	-	Std		
7	0 ms/line	Std		
8	20 ms/line	Fine		
9	5 ms/line	Fine		
A	10 ms/line	Fine		
B	-	Fine		
C	40 ms/line	Fine		
D	-	Fine		
E	-	Fine		
F	0 ms/line	Fine		

**5th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Deferred Comm.	Dialing/RCV	Memory/ Non-Memory	
0	-	Manual Communication	Non-Memory	
1	Used	Manual Communication	Non-Memory	
2	-	Auto Dialing	Non-Memory	
3	Used	Auto Dialing	Non-Memory	
4	-	Auto RCV	Non-Memory	
5	Used	Auto RCV	Non-Memory	
6	-	Remote RCV	Non-Memory	
7	Used	Remote RCV	Non-Memory	
8	-	Manual Communication	Memory	
9	Used	Manual Communication	Memory	
A	-	Auto Dialing	Memory	
B	Used	Auto Dialing	Memory	
C	-	Auto RCV	Memory	
D	Used	Auto RCV	Memory	
E	-	Remote RCV	Memory	
F	Used	Remote RCV	Memory	

**6th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Polling	XMT/RCV	Selective Comm.	Password Comm.
0	-	RCV	Off	Off
1	Yes	RCV	Off	Off
2	-	XMT	Off	Off
3	Yes	XMT	Off	Off
4	-	RCV	On	Off
5	Yes	RCV	On	Off
6	-	XMT	On	Off
7	Yes	XMT	On	Off
8	-	RCV	Off	On
9	Yes	RCV	Off	On
A	-	XMT	Off	On
B	Yes	XMT	Off	On
C	-	RCV	On	On
D	Yes	RCV	On	On
E	-	XMT	On	On
F	Yes	XMT	On	On

**7th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Sub-Address Comm.	Confidential Comm.	Relayed Comm.	Turnaround Polling
0	-	-	-	-
1	Yes	-	-	-
2	-	Yes	-	-
3	Yes	Yes	-	-
4	-	-	Yes	-
5	Yes	-	Yes	-
6	-	Yes	Yes	-
7	Yes	Yes	Yes	-
8	-	-	-	Yes
9	Yes	-	-	Yes
A	-	Yes	-	Yes
B	Yes	Yes	-	Yes
C	-	-	Yes	Yes
D	Yes	-	Yes	Yes
E	-	Yes	Yes	Yes
F	Yes	Yes	Yes	Yes

**8th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Advanced Comm.	Cover Sheet XMT		
0	-	-		
1	Report XMT	-		
2	Check & Call	-		
3	-	-		
4	Memory Transfer	-		
5	-	-		
6	-	-		
7	-	-		
8	-	Yes		
9	Report XMT	Yes		
A	Check & Call	Yes		
B	-	Yes		
C	Memory Transfer	Yes		
D	-	Yes		
E	-	Yes		
F	-	Yes		

**9th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Short Protocol	Standard/ Non-Standard		
0	-	Standard		
1	-	Standard		
2	-	Standard		
3	-	Standard		
4	-	Standard		
5	-	Standard		
6	-	Standard		
7	-	Standard		
8	-	Non-Standard		
9	B	Non-Standard		
A	-	Non-Standard		
B	D	Non-Standard		
C	-	Non-Standard		
D	B	Non-Standard		
E	-	Non-Standard		
F	D	Non-Standard		

**10th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Coding	ECM		
0	MH	-		
1	MR	-		
2	MMR	-		
3	JBIG	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	MH	Yes		
9	MR	Yes		
A	MMR	Yes		
B	JBIG	Yes		
C	-	Yes		
D	-	Yes		
E	-	Yes		
F	-	Yes		

**11th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Symbol Rate (V.34)	V.34		
0	-	-		
1	-	-		
2	-	-		
3	-	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	2400 sr	Yes		
9	-	Yes		
A	2800 sr	Yes		
B	3000 sr	Yes		
C	3200 sr	Yes		
D	3429 sr	Yes		
E	-	Yes		
F	-	Yes		

**12th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Modem Speed	Modem Speed (V.34)		
0	2400 bps	-		
1	4800 bps	2400 bps		
2	7200 bps	4800 bps		
3	9600 bps	7200 bps		
4	TC 7200 bps	9600 bps		
5	TC 9600 bps	12000 bps		
6	12000 bps	14400 bps		
7	14400 bps	16800 bps		
8	-	19200 bps		
9	-	21600 bps		
A	-	24000 bps		
B	-	26400 bps		
C	-	28800 bps		
D	-	31200 bps		
E	-	33600 bps		
F	-	-		

**13th Digit**

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

## 4.11. Troubleshooting (For PCL 6 Emulation Kit)

### 4.11.1. Checking the Basics

This section explains how to solve problems including error messages or unexpected printing results.

If the Panafax Printing System is not printing or working as expected, and if you are not sure what to do, start your troubleshooting by checking the basics below:

- Ensure that the Ethernet LAN (10Base-T / 100Base-TX) Cable is connected properly
- Ensure that the Internet Parameters are correct
- Ensure that the Panafax facsimile unit is turned on
- Ensure that the Paper is set properly on the Panafax Facsimile unit
- No error message is displayed on the Panafax Facsimile unit
- Try printing a test page from the printer driver properties dialog box

### 4.11.2. Document Does Not Print Properly

Problem	Solutions
Character is not printing in the correct positions or the characters near the edges of the page are missing.	<ul style="list-style-type: none"><li>• Check and specify the paper size and orientation settings in the printer driver to coincide with the application.</li><li>• Check if the specified paper is loaded in the Panafax facsimile unit.</li><li>• Increase the Page Margins in the application. The Panafax facsimile unit requires minimum margins of ¼ inches (4 mm) on all sides.</li></ul>
The font type is wrong.	<ul style="list-style-type: none"><li>• Check if the selected font is installed in the PC.</li><li>• Check if the selected font is being replaced with a proper printer font in the Font Substitution Table of the Printer Driver Properties dialog box.</li><li>• Select <b>“Always use TrueType fonts”</b> from the <b>Font</b> tab of the Printer Driver Properties dialog box.</li></ul>
The character is not smooth.	<ul style="list-style-type: none"><li>• Select a outline font instead of a bit map font.</li></ul>
Fine line print cannot be obtained.	<ul style="list-style-type: none"><li>• Select 600 dpi resolution.</li></ul>
Poor photograph print quality.	<ul style="list-style-type: none"><li>• Select 600 dpi resolution.</li></ul>
Different character or symbol from the document is printed.	<ul style="list-style-type: none"><li>• Check if the Panafax Printing System printer driver is selected.</li></ul>
The printer does not print anything or prints irregular images from the middle of the 1 <sup>st</sup> page.	<ul style="list-style-type: none"><li>• Insufficient Printer Page Memory in the Panafax facsimile unit, install an Expansion D-RAM Card or change the resolution to 300 dpi in the <b>Quality</b> tab of the Printer Driver Properties dialog box.</li></ul>
Printing is exceedingly slow.	<ul style="list-style-type: none"><li>• Select the Spool settings <b>“Start printing after first page is spooled”</b> from the <b>Details</b> tab of the Printer Driver Properties dialog box.</li><li>• Select 300 dpi resolution.</li></ul>



#### 4.11.3. Error Message appears on the PC

Error Message	Solutions
Network Print DLL Error.	<ul style="list-style-type: none"><li>• Check if the Panafax facsimile unit is turned "On" and the 10Base-T/100Base-TX cable is properly connected.</li><li>• Printer Properties may be incorrectly configured. (i.e. Printer Port)</li></ul>
Network Port is Busy.	<ul style="list-style-type: none"><li>• The Panafax facsimile unit may be processing someone's print job, please wait and try again later.</li><li>• The Panafax facsimile unit is either Transmitting or Receiving an email.</li></ul>
Cannot print because an error is found in the current printer setting.	<ul style="list-style-type: none"><li>• Verify and specify the paper size or orientation to coincide with the application and the printer driver settings.</li></ul>

#### 4.11.4. Error Message appears on the Panafax facsimile unit

Error Message	Solutions
MEMORY OVERFLOW INFO CODE = 870	<ul style="list-style-type: none"><li>• The available flash memory on the Panafax facsimile unit may not be enough when using the Security Print. Either install an optional Flash Memory Card or change the resolution to 300 dpi in the Printer Driver Properties dialog box.</li></ul>
PRINT PC DATA CHECK PAPER SIZE	<ul style="list-style-type: none"><li>• The Paper Size setting on the Panafax facsimile unit may be set incorrectly (i.e. Installed A4 size paper but the setting is for Letter size and specify to print a A4 size document). Check if the paper size is properly set.</li><li>• Check if the Page Size setting specified in the document is coincide with the setting in the Printer Driver Properties dialog box.</li></ul>
If Information Codes 360, 361 or 362 are displayed on the LCD.	<ul style="list-style-type: none"><li>• Contact your local Panasonic Authorized Dealer.</li></ul>

#### 4.11.5. System Error (Floppy disk drive related error during installation)

Problem	Solutions
Specified an incorrect drive.	<ul style="list-style-type: none"><li>• Specify the correct Floppy disk drive.</li><li>• Make sure the Floppy disk is inserted properly.</li></ul>
Drive not ready.	<ul style="list-style-type: none"><li>• Insert the Floppy disk into the drive and click "Retry".</li></ul>
There was a problem with either the Floppy disk or the Floppy disk drive.	<ul style="list-style-type: none"><li>• Make sure the Floppy disk is inserted properly.</li><li>• Try a different Floppy disk.</li><li>• Try the Floppy disk in a different PC.</li></ul>

## 5 Service Modes

### 5.1. Service Modes (For Copier)

These service modes are provided to assist the technician in checking for abnormalities in the copier and a means of making adjustments to the Input/Output of major components.

#### 5.1.1. Service Mode Procedure

1. To select the service mode

The service mode is selected when FUNCTION, ORIGINAL Size (LEDGER/A3) keys and Key 3 on the keypad are simultaneously pressed, then F1 will appear in the display.

2. To exit the service mode

The service mode is reset when the FUNCTION and CLEAR keys are pressed simultaneously.

#### 5.1.2. Service Mode Functions

Service Modes for DP-2000				
Service mode	Item			Function
F1	Self Test	00	CCD Test	This test is used for checking the CCD.
		01	LCD/LED Test	This test is used for checking the LCD and LEDs.
		02	Page Memory Test	This test is used for checking the Page Memory.
		03	Print Test Pattern 1	Prints the pattern for setting the Paper position alignment.
		04	Print Test Pattern 2	<b>Factory use only.</b>
		05	PRT PWM Adj. Pattern	Prints the gray steps when the Start key is pressed. <b>(Factory use only)</b>
F2	Single Copy Test			One sheet is copied when the Start key is pressed.
F3	Continuous Copy Test			Multi copies are made when the Start key is pressed.
F4	Input / Output Status Test			The functioning of Input / Output items (selected item numbers) is checked.
F5	Function Parameters			Various function settings (selected by code numbers) can be changed.
F6	Adjustment Parameters			Various function settings (selected by code numbers) can be adjusted.

Service Modes for DP-2000				
Service mode	Item			Function
F7	Electronic Counter	00	Not Used	
		01	Key Operator ID	Key Operator's identification code for access to the counter mode.
	Maintenance Count	02	Total Count	Total count for all copies / prints.
		03	PM Count	Preventive Maintenance count.
		04	Scanner PM Count	PM count for scanner read.
		05	ADF/iADF PM Count	PM count for originals fed.
		06	OPC Drum Count	PM count for OPC Drum paper fed.
		07	Process Unit Count	PM count for Process Unit paper fed.
		08	Paper Transport Count	PM count for Paper Transport Unit paper fed.
		09	ADU Count	PM count for Automatic Duplex Unit paper fed.
		10	Dual-Path Count	PM count for Dual-Path Exit Guide Unit paper fed.
	Paper Feed Count	11	Sheet Bypass Count	Total count of paper fed from the sheet bypass.
		12	1st Paper Tray Count	Total count of paper fed from the 1st paper tray.
		13	2nd Paper Tray Count	Total count of paper fed from the 2nd paper tray.
		14	3rd Paper Tray Count	Total count of paper fed from the 3rd paper tray.
		15	4th Paper Tray Count	Total count of paper fed from the 4th paper tray.
	Scanner Count	16	ADF/iADF Count	Total count of originals fed through the ADF/iADF.
		17	ADF/iADF Read Count	Total count of originals scanned through the ADF/iADF.
		18	Scanner Count	Total count of scanning operations.
		19	Scanner Read Count	Total count of scanner read.
	Copy Count	20	Copy Print Count	Total count of copies printed.
		21	Copy Scan Count	Total count of copies scanned.
	PC Count	22	PC Print Count	Total count printed from PC.
		23	PC Scan Count	Total count scanned from PC.
	Fax Count	24	Fax Transmit Count	Total count of Fax transmitted.
		25	Fax Receive Count	Total count of Fax received.
		26	Fax Print Count	Total count of Fax printed.
	99	Clear All Counts		All counters are cleared.

Service Modes for DP-2000		
Service mode	Item	Function
F8	Service Adjustment	Perform pseudo-operation of an item (selected by code numbers)
	00 CHK Mirror Movement	When replacing the exposure lamp. Procedure: a) Press the Start key to move the exposure lamp to the position (approx. 250mm from the optics home position) where it can be replaced. b) To return the optical system to the home position, press the CLEAR key.*
	06 Error Log Print/View	a) Each time the arrow key is pressed, the machine errors or paper jam codes stored in memory are displayed, beginning with the oldest code. <b>Note:</b> Only the 30 most recent codes are displayed.
	07 Error Log Clear	a) Press the Reset key. A Message "Error code can be cleared with the Start key" is displayed on the LCD.* b) Press the Start key.
	12 Original Size Sensor	Adjust the slice level for the original size detection sensors automatically. Execute this mode by closing the platen cover.
	19 Move Mirror To Lock	a) Press the Start key then the mirror unit moves to locked position for transporting the copier. b) When the mirror unit is locked, any digit key input is not be accepted. <b>Note:</b> The lock operation is automatically reset when the Power switch is turned ON again.
	47 ADF Continuous Test	Press START key to start.
	48 Platen Continuous Test	Press START key to start.

### Service Modes for DP-2000

Service mode	Item			Function
F9	Unit Maintenance	00	Fax Function Parameters	
		01	Service Alert Tel #	Displays the contact number when a machine malfunction occurs.
		02	Firmware Version	00 Host
				02 Scanner
				03 Printer
				04 Finisher
				05 Printer Board (PDL)
				06 LAN Board
				07 G3B Board
				08 Modem
				09 3rd Paper Feed Module
		03	Print Device Info.	00 F5/F6 Parameters
				01 Printer Report
				02 Counter Information
				03 System Addr. Info.
				04 RAM Addr. Info.
		04	RAM Edit Mode	
		06	RAM Initialize	00 Parameter Initialize
				01 All Job Clear
				02 LBP Error Log Clear
				03 Shipment Set
				04 LBP Fuser Reset
		07	Firmware Update	00 Host Program (4MB)
				01 Host Part A (2MB)
				02 Host Part B (2MB)
				03 EP Board (2MB)
				04 LAN Board (2MB)
		08	Firmware Backup	00 Host Program (4MB)
				01 Host Part A (2MB)
				02 Host Part B (2MB)
		09	PC → Flash Card	
		10	Page Memory Size	
		11	Sort Memory Size	

Service Modes for DP-2500/3000				
Service mode	Item			Function
F1	Self Test	00	CCD Test	This test is used for checking the CCD.
		01	LCD/LED Test	This test is used for checking the LCD and LEDs.
		02	Page Memory Test	This test is used for checking the Page Memory.
		03	Print Test Pattern 1	Prints the pattern for setting the Paper position alignment.
		04	Print Test Pattern 2	Factory use only.
		05	PRT PWM Adj. Pattern	Prints the gray steps when the Start key is pressed. <b>(Factory use only)</b>
F2	Single Copy Test			One sheet is copied when the Start key is pressed.
F3	Continuous Copy Test			Multi copies are made when the Start key is pressed.
F4	Input / Output Status Test			The functioning of Input / Output items (selected item numbers) is checked.
F5	Function Parameters			Various function settings (selected by code numbers) can be changed.
F6	Adjustment Parameters			Various function settings (selected by code numbers) can be adjusted.

### Service Modes for DP-2500/3000

Service mode	Item		Function
F7	Electronic Counter	00	Not Used
		01	Key Operator ID Key Operator's identification code for access to the counter mode.
		02	Maintenance Count
		00	Total Count Total count for all copies / prints.
		01	PM Count Preventive Maintenance count.
		02	Scanner PM Count PM count for scanner read.
		03	ADF/iADF PM Count PM count for originals fed.
		04	Not Used
		05	OPC Drum Count PM count for OPC Drum paper fed.
		06	Process Unit Count PM count for Process Unit paper fed.
		07	Paper Transport Count (See Note) PM count for Paper Transport Unit paper fed.
		08	ADU Count (See Note) PM count for Automatic Duplex Unit paper fed.
		09	Dual-Path Count (See Note) PM count for Dual-Path Exit Guide Unit paper fed.
		03	Paper Feed Count
		00	Sheet Bypass Count Total count of paper fed from the sheet bypass.
		01	1st Paper Tray Count Total count of paper fed from the 1st paper tray.
		02	2nd Paper Tray Count Total count of paper fed from the 2nd paper tray.
		03	3rd Paper Tray Count Total count of paper fed from the 3rd paper tray.
		04	4th Paper Tray Count Total count of paper fed from the 4th paper tray.
		04	Scanner Count
		00	ADF/iADF Count Total count of originals fed through the ADF/iADF.
		01	ADF/iADF Read Count Total count of originals scanned through the ADF/iADF.
		02	Scanner Count Total count of scanning operations.
		03	Scanner Read Count Total count of scanner read.
		05	Copy Count
		00	Copy Print Count Total count of copies printed.
		01	Copy Scan Count Total count of copies scanned.
		06	PC Count
		00	PC Print Count Total count printed from PC.
		01	PC Scan Count Total count scanned from PC.
		08	Fax Count
		00	Fax Transmit Count Total count of Fax transmitted.
		01	Fax Receive Count Total count of Fax received.
		02	Fax Print Count Total count of Fax printed.
		09	Clear All Counts All counters are cleared.

Service Modes for DP-2500/3000			
Service mode	Item		Function
F8	Service Adjustment		Perform pseudo-operation of an item (selected by code numbers)
	00	CHK Mirror Movement	When replacing the exposure lamp. Procedure: a) Press the Start key to move the exposure lamp to the position (approx. 250mm from the optics home position) where it can be replaced. b) To return the optical system to the home position, press the CLEAR key.*
	06	Error Log Print/View	a) Each time the arrow key is pressed, the machine errors or paper jam codes stored in memory are displayed, beginning with the oldest code. <b>Note:</b> Only the 30 most recent codes are displayed.
	07	Error Log Clear	a) Press the Reset key. A Message "Error code can be cleared with the Start key" is displayed on the LCD.* b) Press the Start key.
	12	Orginal Size Sensor	Adjust the slice level for the original size detection sensors automatically. Execute this mode by closing the platen cover.
	19	Move Mirror To Lock	a) Press the Start key then the mirror unit moves to locked position for transporting the copier. b) When the mirror unit is locked, any digit key input is not be accepted. <b>Note:</b> The lock operation is automatically reset when the Power switch is turned ON again.
	47	ADF Continuous Test	Press START key to start.
	48	Platen Continuous Test	Press START key to start.



Service Modes for DP-2500/3000						
Service mode	Item				Function	
F9	Unit Maintenance	00	Fax Function Parameters			
		01	Service Alert Tel #		Displays the contact number when a machine malfunction occurs.	
		02	Firmware Version	00	Host	Displays the firmware version for host.
				01	Control Panel (For DP-2500/3000)	Displays the firmware version for control panel.
				02	Scanner	Displays the firmware version for scanner.
				03	Printer	Displays the firmware version for printer.
				04	Finisher	Displays the firmware version for finisher.
				05	Printer Board (PDL)	Displays the firmware version for PDL.
				06	LAN Board	Displays the firmware version for LAN.
				07	G3B Board	Displays the firmware version for G3B Board.
				08	Modem	Displays the firmware version for modem.
				09	3rd Paper Feed Module	Displays the firmware version for 3rd Paper Feed Module.
		03	Print Device Info.	00	F5/F6 Parameters	Prints the memory contents of the F5 and F6 modes.
				01	Printer Report	Prints the printer report.
				02	Counter Information	Prints the counter information.
				03	System Addr. Info.	Prints the system memory setting.
				04	RAM Addr. Info.	Prints the RAM data dump list.
		04	RAM Edit Mode			<b>Factory use only.</b>
		06	RAM Initialize	00	Parameter Initialize	Resets the Fax and Function parameters to default values.
				01	All Job Clear	Clears all Jobs stored in Flash Memory.
				02	LBP Error Log Clear	Clears the Printer Error Log.
				03	Shipment Set	Clears All Jobs, All Preset Data, Parameter Initialize & Resets the Counters (Fax).
				04	LBP Fuser Reset	Clears the LBP fuser error.
		07	Firmware Update	00	Host Program (4MB)	Updates the firmware in the machine with the Master Firmware Card.
				01	Host Part A (2MB)	
				02	Host Part B (2MB)	
				03	EP Board (2MB)	
04	LAN Board (2MB)					
08	Firmware Backup	00	Host Program (4MB)	Creates a Backup Firmware Card of the machine's firmware.		
		01	Host Part A (2MB)			
		02	Host Part B (2MB)			
09	PC → Flash Card			Creates a Master Firmware Card using the Firmware Update Kit. A 2MB or 4MB Flash Memory Card will be required depending upon the model.		
10	Page Memory Size			Displays the page memory size (MB).		
11	Sort Memory Size			Displays the sort memory size (MB).		

### 5.1.3. F4 Mode: Input/Output Check

#### For DP-2000

Set the machine to service mode and press "4" on the Keypad.



Press the "START" key.



Select the Check Input or Check Output on the Control Panel.



Enter the number to activate the test then press "START" key.



Press "STOP" key to cancel the test.



When the "CLEAR" key is pressed, the selected code input will not be accepted.



Press "FUNCTION" and "CLEAR" key to exit the service mode.

#### For DP-2500/3000

Set the machine to service mode and press "4" on the Keypad.



Press the "START" key.



Select the Check Input or Check Output on the Touch Panel display.



Enter the number to activate the test then press "START" key.



Press "STOP" key to cancel the test.



When the "CANCEL" key is touched, the selected code input will not be accepted.



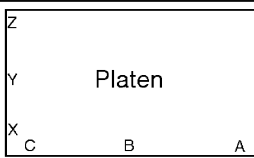
Press "FUNCTION" and "CLEAR" key to exit the service mode.

## 1. Input Check

F4 Mode (Input Check) : For DP-2000/2500/3000										
No.	Function	Condition	Message Display							
			7	6	5	4	3	2	1	0
000	Not Used									
001	Paper Registration Sensor (4th Paper Tray)	Sensor is activated.		1						
	Paper Registration Sensor (3rd Paper Tray)	Sensor is activated.			1					
	Paper Registration Sensor (2nd Paper Tray)	Sensor is activated.				1				
002	Registration Sensor	Sensor is activated.					1			
	Paper Eject Sensor	Sensor is activated.						1		
	Dual-Path Exit Guide Unit Eject Sensor	Sensor is activated.							1	
003	Finisher Staple Tray2	Paper is on the tray.		1						
	Finisher Tray	Paper is on the tray.			1					
004	Paper Transport Unit Sensor 4	Sensor is activated.				1				
	Paper Transport Unit Sensor 3	Sensor is activated.					1			
	Paper Transport Unit Sensor 2	Sensor is activated.						1		
	Paper Transport Unit Sensor 1	Sensor is activated.							1	
005	Finisher Staple Tray	Paper is on the tray.			1					
006	Duplex Unit Sensor 4	Sensor is activated.				1				
	Duplex Unit Sensor 3	Sensor is activated.					1			
	Duplex Unit Sensor 2	Sensor is activated.						1		
	Duplex Unit Sensor 1	Sensor is activated.							1	
007	Finisher Tray Home Position	Tray in home position.		1						
	Finisher Paper Feed Sensor	Sensor is activated.			1					
	JAM Access Cover Open Detection Sensor (4th Tray)	Cover is open.				1				
	Paper Level Sensor (4th Tray)	Upper Limit is detected.					1			
	Paper Tray Sensor (4th Tray)	Paper Tray is detected.						1		
	NP Sensor (4th Tray)	Paper is detected.							1	

F4 Mode (Input Check) : For DP-2000/2500/3000										
No.	Function	Condition	Message Display							Remark
			7	6	5	4	3	2	1	0
008	Finisher Tray Lower Limit	Lower Limit is detected.		1						
	Finisher Tray Upper Limit	Upper Limit is detected.			1					
	JAM Access Cover Open Detection Sensor (3rd Tray)	Door is open.				1				
	Paper Level Sensor (3rd Tray)	Upper Limit is detected.					1			
	Paper Tray Sensor (3rd Tray)	Paper Tray is detected.						1		
	NP Sensor (3rd Tray)	Paper is detected.							1	
009	Finisher Back-Roller Home Position	Home position is detected.		1						
	Finisher Front Alignment Plate Home Position	Home position is detected.			1					
	JAM Access Cover Open Detection Sensor (2nd Tray)	Door is open.				1				
	Paper Level Sensor (2nd Tray)	Upper Limit is detected.					1			
	Paper Tray Sensor (2nd Tray)	Paper Tray is detected.						1		
	NP Sensor (2nd Tray)	Paper is detected.							1	
010	Finisher End Alignment Plate Home Position	Home position is detected.		1						
	Finisher Lever Home Position	Home position is detected.			1					
	JAM Access Cover Open Detection Sensor (1st Tray)	Cartridge is detected.				1				
	Paper Level Sensor (1st Tray)	Upper Limit is detected.					1			
	Paper Tray Sensor (1st Tray)	Paper Tray is detected.						1		
	NP Sensor (1st Tray)	Paper is detected.							1	
011	Finisher Stapler detecting Sensor	Stapler is not detected.		1						
	Finisher Stapler Cartridge Home Position	Home position is not detected.			1					
	Sheet Bypass Paper Length	Paper is detected.				1				
	Sheet Bypass Paper Length (A3)	Paper is detected.					1			
	Sheet Bypass Paper Length (B4)	Paper is detected.						1		
	Sheet Bypass NP Sensor	Paper is detected.							1	

**F4 Mode (Input Check) : For DP-2000/2500/3000**

No.	Function	Condition	Message Display								Remark
			7	6	5	4	3	2	1	0	
012	Finisher Stapler Top	Stapler top is detected.		1							
	Finisher Interlock	Finisher Interlock is actuated.			1						
	Waste Toner Box Sensor	Toner Cartridge is detected.				1					
	Paper Transport Unit Door Sensor	Paper Transport Unit Door is closed.					1				
	Front Cover Sensor	Front Cover is closed.						1			
	Micro Switch	Right Side Door is closed.							1		
013-019	Not Used										
020	Size Sensor 3	Original is on the C point.								1	 <p align="center">Front Side</p>
	Size Sensor 3	Original is on the B point.							1		
	Size Sensor 3	Original is on the A point.						1			
	Size Sensor 3	Original is on the Z point.					1				
	Size Sensor 3	Original is on the Y point.				1					
	Size Sensor 3	Original is on the X point.			1						
021	Scanner Home Position	Home position is detected.								1	
	ADF/Platen Cover Open Sensor	ADF/Platen Cover is open.							1		
	ADF/Platen Cover Angle Sensor	ADF/Platen Cover is open more than angle of 30°.						1			
022-029	Not Used										
030	ADF Duplex Eject Sensor	Sensor is activated.									
	ADF Read Point Sensor	Sensor is activated.							1		
	ADF Eject Sensor	Sensor is activated.						1			
	ADF Reversing Guide Sensor	Guide is open.					1				
	ADF Cover Open Detection Sensor	Cover is open.				1					
031	ADF Original Sensor	Sensor is activated.								1	
	ADF Original Width Sensor (A4/Letter)	A4/Letter size is detected.							1		
	ADF Original Width Sensor (B4)	B4 size is detected.						1			
	ADF Original Width Sensor (A3)	A3 size is detected.					1				
	ADF Original Length Sensor 2	Sensor is activated.				1					
	ADF Original Length Sensor 1	Sensor is activated.			1						
032-039	Not Used										

## 2. Output check

Press the "START" key to start and press the "STOP" key to reset.

F4 Mode (Output Check) : For DP-2000/2500/3000			
No.	Item	Function	Remark
040	Total Counter	Count up the Total Counter after pressing Start key.	
041	Key Counter	Count up the Key Counter after pressing Start key.	
042-049	Not Used		
050	Printer Motor	Activate Main Motor after pressing Start key.	
051	High Voltage Charge AC	Activate High Voltage Charge AC after pressing Start key.	
052	High Voltage Charge DC	Activate High Voltage Charge DC after pressing Start key.	
053	High Voltage Development	Activate High Voltage Development after pressing Start key.	
054	High Voltage Transfer	Activate High Voltage Transfer after pressing Start key.	
055	High Voltage Cleaning	Activate High Voltage Cleaning after pressing Start key.	
056	Fan	Activate Fan after pressing Start key.	
057	Power Supply for Fan	Activate Power Supply for Fan after pressing Start key.	
058-059	Not Used		
060	Fuser Lamp	Activate Fuser Lamp after pressing Start key.	
061	Registration Clutch	Activate Registration Clutch after pressing Start key.	
062	Polygon Motor (LSU)	Activate Polygon Motor after pressing Start key.	
063	1st Tray Feed Roller Clutch	Activate 1st Tray Paper Drive Clutch after pressing Start key.	
064	1st Tray Lift DC Motor	Activate 1st Tray Lift DC Motor after pressing Start key.	
065	OPC Clutch	Activate OPC Clutch after pressing Start key	
066-069	Not Used		
070	2nd Tray Feed Roller Clutch	Activate 2nd Tray Paper Drive Clutch after pressing Start key.	
071	2nd Tray Lift DC Motor	Activate 2nd Tray Lift DC Motor after pressing Start key.	
072	2nd Intermediate Roller Clutch	Activate 2nd Idle Clutch after pressing Start key.	
073-074	Not Used		

<b>F4 Mode (Output Check) : For DP-2000/2500/3000</b>			
<b>No.</b>	<b>Item</b>	<b>Function</b>	<b>Remark</b>
075	3rd Tray Motor	Activate 3rd Tray Motor after pressing Start key.	
076	3rd Tray Feed Roller Clutch	Activate 3rd Tray Paper Drive Clutch after pressing Start key.	
077	3rd Tray Lift DC Motor	Activate 3rd Tray Lift DC Motor after pressing Start key.	
078	3rd Intermediate Roller Clutch	Activate 3rd Idle Clutch after pressing Start key.	
079	Not Used		
080	4th Tray Feed Roller Clutch	Activate 4th Tray Paper Drive Clutch after pressing Start key.	
081	4th Tray Lift DC Motor	Activate 4th Tray Lift DC Motor after pressing Start key.	
082	4th Intermediate Roller Clutch	Activate 4th Idle Clutch after pressing Start key.	
083-084	Not Used		
085	Multi Feeder Feed Roller Clutch	Activate Sheet Bypass Clutch after pressing Start key.	
086-099	Not Used		
100	Duplex Unit Solenoid (Eject 2)	Activate Automatic Duplex Unit Solenoid (Eject 2) after pressing Start key.	
101	Duplex Unit Solenoid (Eject 1)	Activate Automatic Duplex Unit Solenoid (Eject 1) after pressing Start key.	
102	Transport Unit Motor (Eject to Outer Tray)	Activate Transport Unit Motor (Eject to Outer Tray) after pressing Start key.	
103	Transport Unit Motor (Enter to Duplex Unit)	Activate Transport Unit Motor (Enter to Duplex Unit) after pressing Start key.	
104	Dual-Path Exit Guide Unit Solenoid (Enter to Paper Transport Unit)	Activate Dual-Path Exit Guide Unit Solenoid (Enter to Paper Transport Unit) after pressing Start key.	
105	Dual-Path Exit Guide Unit Solenoid (Enter to Duplex Unit)	Activate Dual-Path Exit Guide Unit Solenoid (Enter to Duplex Unit) after pressing Start key.	
106-109	Not Used		
110	Finisher Paper Eject Motor	Activate Finisher Paper Eject Motor after pressing Start key.	
111	Finisher Paper Alignment Motor	Activate Finisher Paper Alignment Motor after pressing Start key.	
112	Finisher Front Alignment Motor	Activate Finisher Front Alignment Motor after pressing Start key.	
113	Finisher End Alignment Motor	Activate Finisher End Alignment Motor after pressing Start key.	

F4 Mode (Output Check) : For DP-2000/2500/3000			
No.	Item	Function	Remark
114	Finisher Stuck Tray Motor	Activate Finisher Stuck Tray Motor after pressing Start key.	
115	Finisher Stapler Motor	Activate Finisher Stapler Motor after pressing Start key.	
116-119	Not Used		
120	CCD Assembly	Activate CCD Assembly after pressing Start key.	



#### 5.1.4. F5 Mode: Copier Function Parameters

##### For DP-2000

Set the machine to Service Mode and press "5" on the Keypad.



Press the "START" key.



Select the desired code number on the Control Panel.



If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).



Select the desired function on the Control Panel and press the "START" key.



When the "CLEAR" key is pressed, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

##### For DP-2500/3000

Set the machine to Service Mode and press "5" on the Keypad.



Press the "START" key.



Select the desired code number on the Touch Panel display.



If you wish to select another code number, scroll the menu with the arrow keys (←→).



Select the desired function on the Touch Panel display and touch the "OK" key.



When the "CANCEL" key is touched, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
00	Country version	0 : Japanese 1 : North American 2 : European 3 : Other	1 (for North America) 2 (for Europe/ Other)
01-02	Not Used		
03	LSU Startup Speed	0 : Full 1 : Low	0 (for North America) 1 (for Europe/ Other)
04	LSU Off Timer	0 : 15 sec 1 : 30 sec 2 : 45 sec 3 : 60 sec 4 : 75 sec	1 (for North America) 0 (for Europe/ Other)
05-08	Not Used		

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
09	Fuser Lamp Phase Control	0 : Zero cross control (No) 1 : Phase control (Pattern 1) 2 : Phase control (Pattern 2)	1 (for North America) 2 (for Europe/ Other)
10	Not Used		
11	Copy Reservation	0 : No 1 : Yes	1
12-13	Not Used		
14	Paper Size (Tray 1)	0 : Ledger 1 : Legal 2 : Letter 3 : Letter-R 4 : INVOICE/A5-R 5 : A3 6 : A4 7 : A4-R 8 : B5 9 : B5-R 10 : A5-R 11 : FLS1 12 : FLS2	0 (for North America) 5 (for Europe/ Other)
15	Paper Size (Tray 2)	Same as F5-14	Same as F5-14
16	Paper Size (Tray 3)	Same as F5-14	Same as F5-14
17	Paper Size (Tray 4)	Same as F5-14	Same as F5-14
18-19	Not Used		
20	ADF/iADF	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
21	Finisher	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
22	3rd Paper Feed Unit	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
23	Paper Transport Unit	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
24	ADU	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
25	Dual-Path Guide Unit	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
26	iADF	0 : Off (Does not detect the option) 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
27-31	Not Used		
32	SADF Default	0 : No 1 : Yes	0
33	Not Used		
34	Multi-Feed Default	0 : Off 1 : On	0
35	Sort Mode Default	0 : Non-sort 1 : Sort 2 : Staple 3 : Group	0
36	Output Tray (Inner)	0 : Off 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
37	Output Tray (Outer)	0 : Off 1 : Auto Exit the service mode and reboot the machine after setting the parameter to activate the setting.	1
38	Duplex Mode Default	0 : No 1 : 1 to 2 2 : 2 to 2 3 : Book to 2	0
39	Not Used		
40	Double Count (Total Counter, Key Counter, and Electronic Counter)	0 : No 1 : Ledger/A3 2 : Ledger/Legal/A3/B4	1
41	Count Up Timing	0 : At paper feed roller clutch (and sheet bypass solenoid) 1 : At paper exit sensor	1
42	Key/Dept. Counter	0 : Not installed 1 : Key Counter Installed 2 : Departmental Counter	0
43	Key Counter Timing	Same as F5-41	0
44	Insert Paper Count	0 : No 1 : Yes (Count the blank paper for OHP Interleaving)	0
45-49	Not Used		

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
50	Auto Exposure (T/P)	0 : No 1 : Yes 2 : Fix	2
51	Multisize Rotation (Image rotation at multi size original)	0 : No 1 : Yes	0
52	Original Size Detect (Auto original size detecting sensor)	0 : Priority (Use the setting for F5-80) 1 : Yes (Detection) 2 : No (No Detection)	1
53	Not Used		
54	Margin Reduction	0 : No 1 : Yes	0
55	Margin Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	1
56	Edge Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	0
57	Book Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	1
58	Not Used		
59	Copier Operation U13 (After "U13" Toner Box empty detection)	0 : Stop (Copier stops or copy cycle is inhibited) 1 : Continue (Continuous copier operation)	0
60	Auto Tray Selection	0 : No (Manual) 1 : Yes (Auto)	1
61-62	Not Used		
63	U13 Clear=After toner empty detection (Copier stops or copy cycle inhibited)	0 : Any keys (When clearing U13, press any key.) 1 : User key (Press FUNCTION key and digit key 1.)	0
64-65	Not Used		
66	Interleave Default	0 : Blank 1 : Copy	0
67-68	Not Used		
69	Reduce N-in-1 Space	0 : No 1 : Yes	0

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
70	PM (Preventive Maintenance)	0 : No 1 : 1.5K 2 : 2.5K 3 : 5K 4 : 10K 5 : 15K 6 : 20K 7 : 30K 8 : 40K 9 : 60K 10 : 80K 11 : 90K 12 : 120K 13 : 160K	10
71	Not Used		
72	Not Used		
73	PM (OPC Drum) (Preventive Maintenance for OPC Drum)	0 : No (No indication) 1 : Service 2 : User	
74	PM (Process Unit) (Preventive Maintenance for Process Unit)	0 : No (No indication) 1 : Service 2 : User	
75	Not Used		
76	Automatic Exposure (Text)	0 : No 1 : Yes 2 : Fix	2
77	Text Error Diffusion	0 : Off 1 : On (Execute error diffusion on Text mode.)	1
78	A4/LTR Size Select	0 : No 1 : Yes (Set paper side to A4/LTR if original or less than A4/LTR.)	0
79	Not Used		
80	Paper Size Priority	0 : Ledger 1 : Legal 2 : Letter 3 : Letter-R 4 : INVOICE 5 : A3 6 : B4 7 : A4 8 : A4-R 9 : B5 10 : B5-R 11 : A5 12 : A5-R 13 : FLS1 14 : FLS2	2 (for North American) 8 (for European/ Other)
81	B4/Foolscap Size (for European version)	0 : B4 1 : Foolscap 1 (13" x 8") 2 : Foolscap 2 (13" x 8.5")	1

F5 Mode : For DP-2000/2500/3000			
No.	Item	Function	Factory setting
82	Manual Skyshot Mode	0 : Off1 : M1 On 2 : M2 On3 : M1, M2 On	0
83	Digital Skyshot	0 : No 1 : Normal 2 : Quality	1
84	Paper Tray Priority (Left to Right)	0 : System (lower to upper) > Sheet bypass 1 : Copier (upper to lower) > Sheet bypass	1
85	Not Used		
86	PM (Scanner)	0 : No 1 : 40K 2 : 60K 3 : 120K 4 : 240K 5 : 360K 6 : 480K 7 : 600K	0
87	PM (ADF/iADF)	0 : No 1 : 40K 2 : 60K 3 : 120K 4 : 240K 5 : 360K 6 : 480K 7 : 600K	0
88-89	Not Used		
90	Beep Sound	0 : Off 1 : Soft 2 : Mid. 3 : Loud	1
91	M1, Size Y	Set the default size for Manual Sky Shot Mode, M1 and M2.	160
92	M1, Size X		70
93	M2, Size Y		220
94	M2, Size X		95
95	Paper Size (FA) (Factory use only)	0 : Japanese 1 : North American 2 : European 3 : Other	-
96	Bypass Size (FA) (Factory use only)	0 : Japanese 1 : North American 2 : European 3 : Other	-
97	Not Used		
98	Bypass B4/FLS (FA) (Factory use only)	0 : B4 1 : Foolscap 1 (13" x 8") 2 : Foolscap 2 (13" x 8.5")	-
99	Not Used		

### 5.1.5. F6 Mode: Adjustment and Programming

#### For DP-2000

Set the machine to Service Mode and press "6" on the Keypad.



Press the "START" key.



Select the desired code number on the Control Panel.



If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).



Select the desired function on the Control Panel and press the "START" key.



When the "CANCEL" key is pressed, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

#### For DP-2500/3000

Set the machine to Service Mode and press "6" on the Keypad.



Press the "START" key.



Select the desired code number on the Touch Panel display.



If you wish to select another code number, scroll the menu with the arrow keys (←→).



Select the desired function on the Touch Panel display and touch the "OK" key.



When the "CANCEL" key is touched, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

F6 Mode : For DP-2000/2500/3000				
No.	Item	Function	Setting	Factory setting
00	Main-scan direction magnification ratio (vertical position to the paper feed direction) (standard = 100%)	Adjustment of ratio for vertical position when scan is made.	-9 - +9 0.1%	+4
01	Sub-scan direction magnification ratio (parallel position to the paper feed direction)	Adjustment of ratio for parallel position when scan is made.	-9 - +9 0.1%	+4
02	Platen original registration detecting timing	Adjustment of platen original registration detection timing.	-30 - +30 0.2mm	0
03	Copy paper registration detecting timing (1st Tray)	Delay time is adjusted from registration roller clutch ON.	-30 - +30 0.25mm	0
04	Copy paper registration detecting timing (Sheet Bypass)	Delay time is adjusted from registration roller clutch ON.	-30 - +30 0.25mm	0
05	Copy paper registration detecting timing (2/3/4th Tray)	Delay time is adjusted from registration roller clutch ON.	-30 - +30 0.25mm	0
06	Copy paper registration detecting timing (Auto. Duplex Unit)	Delay time is adjusted from registration roller clutch ON.	-30 - +30 0.25mm	0
07	Registration void of image	Registration void should be adjusted.	0 - +99 0.425mm	6
08	Trail edge detection timing of the original image	Adjustment of trail edge void.	-9 - 0 0.5mm	0
09	Trail edge detection timing of the copy image	Adjustment of trail edge void.	-9 - +15 0.425mm	-6
10-17	Not Used			
18	Laser power compensation	Laser power compensation adjustment.	-127 - 127	0
19	Bias standard voltage	Adjustment of bias standard voltage.	-127 - 127 2.28V	0
20	Halftone Adjust	Halftone adjustment, Print density for Photo Mode. (-) : Darker. (+) : Lighter.	-8 - +7	0
21-30	Not Used			
31	Fuser temperature	Adjustment of fuser temperature.	-15 - +15 0.7°C	0
32-38	Not Used			
39	LSU unit PWM	Adjustment of PWM value of LSU.	-32 - +32	0
40	Not Used			
41	Paper loop (1st Tray)	Adjustment for the length of the loop formed before the copier timing roller.	-8 - +7 0.5mm	0
42	Paper loop (Sheet Bypass)	Adjustment for the length of the loop formed before the copier timing roller.	-8 - +7 0.5mm	0
43	Paper loop (2/3/4th Tray)	Adjustment for the length of the loop formed before the copier timing roller.	-8 - +7 0.5mm	0



F6 Mode : For DP-2000/2500/3000				
No.	Item	Function	Setting	Factory setting
44	Paper loop (Auto. duplex unit)	Adjustment for the length of the loop formed before the copier timing roller.	-8 - +7 0.5mm	0
45-48	Not Used			
49	Text mode image density	Image density adjustment for Text mode. (-) : Darker. (+) : Lighter.	-99 - +99	0
50	Text/Photo mode image density	Image density adjustment for Text/Photo mode. (-) : Darker. (+) : Lighter.	-99 - +99	0
51	Photo mode image density	Image density adjustment for Photo mode. (-) : Darker. (+) : Lighter.	-99 - +99	0
52	Not Used			
53	CCD read timing	Adjustment of CCD read position Exit the service mode and reboot the machine after setting the parameter to activate the setting.	-44 - +44 0.2mm	-10
54-68	Not Used			
69	Stamp position adjustment	Adjustment of verification stamp position.	-7 - +7 0.5mm	0
70-78	Not Used			
79	MTF adjustment	Adjustment of MTF.	-127 - +127	0
80-82	Not Used			
83	Laser Unit image side (Sheet Bypass)	Laser write start position adjustment (side to side adjustment).	-8 - +7 0.5mm	0
84	Laser Unit image side (1st Tray)			
85	Laser Unit image side (2nd Tray)			
86	Laser Unit image side (3rd Tray)			
87	Laser Unit image side (4th Tray)			
88	Not Used			
89	Laser Unit image side (Auto. Duplex Unit)	Laser write start position adjustment (side to side adjustment).	-8 - +7 0.5mm	0
90	ADF Image read start	Adjustment of ADF horizontal image read start position. Exit the service mode and reboot the machine after setting the parameter to activate the setting.	-50 - +50 0.2mm	0
91	ADF original lead edge registration	Adjustment of original detection timing.	-99 - +99 0.2mm	8
92	Not Used			
93	ADF original trail edge	Adjustment of original trail edge detection.	-127 - 127 0.2mm	0
94	ADF magnification ratio (Top feed)	Adjustment of ratio when the scan is made.	-9 - +9 0.1%	0

F6 Mode : For DP-2000/2500/3000				
No.	Item	Function	Setting	Factory setting
95-99	Not Used			

### 5.1.6. F7 Mode: Electronic Counter

#### For DP-2000

Set the machine to Service Mode and press "7" on the Keypad.



Press the "START" key.



Select the desired code number on the Control Panel.



If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).



Select the desired function on the Control Panel and press the "START" key.



When the "CLEAR" key is pressed, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

#### For DP-2500/3000

Set the machine to Service Mode and press "7" on the Keypad.



Press the "START" key.



Select the desired code number on the Touch Panel display.



If you wish to select another code number, scroll the menu with the arrow keys (←→).



Select the desired function on the Touch Panel display and touch the "OK" key.



When the "CANCEL" key is touched, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

**F7 Mode : For DP-2000**

Service mode	Item			Function		
F7	Electronic Counter	00	Not Used			
		01	Key Operator ID		Key Operator's identification code for access to the counter mode.	
		Maintenance Count	02	Total Count		Total count for all copies / prints.
			03	PM Count		Preventive Maintenance count.
			04	Scanner PM Count		PM count for scanner read.
			05	ADF/iADF PM Count		PM count for originals fed.
			06	OPC Drum Count		PM count for OPC Drum paper fed.
			07	Process Unit Count		PM count for Process Unit paper fed.
			08	Paper Transport Count		PM count for Paper Transport Unit paper fed.
			09	ADU Count		PM count for Automatic Duplex Unit paper fed.
			10	Dual-Path Count		PM count for Dual-Path Exit Guide Unit paper fed.
			Paper Feed Count	11	Sheet Bypass Count	
		12		1st Paper Tray Count		Total count of paper fed from the 1st paper tray.
		13		2nd Paper Tray Count		Total count of paper fed from the 2nd paper tray.
		14		3rd Paper Tray Count		Total count of paper fed from the 3rd paper tray.
		15		4th Paper Tray Count		Total count of paper fed from the 4th paper tray.
		Scanner Count	16	ADF/iADF Count		Total count of originals fed through the ADF/iADF.
			17	ADF/iADF Read Count		Total count of originals scanned through the ADF/iADF.
			18	Scanner Count		Total count of scanning operations.
			19	Scanner Read Count		Total count of scanner read.
		Copy Count	20	Copy Print Count		Total count of copies printed.
			21	Copy Scan Count		Total count of copies scanned.
		PC Count	22	PC Print Count		Total count printed from PC.
			23	PC Scan Count		Total count scanned to PC.
		Fax Count	24	Fax Transmit Count		Total count of Fax transmitted.
			25	Fax Receive Count		Total count of Fax received.
			26	Fax Print Count		Total count of Fax printed.
		99	Clear All Counts			All counters are cleared.

**F7 Mode : For DP-2500/3000**

Service mode	Item			Function
F7	Electronic Counter	00	Not Used	
		01	Key Operator ID	Key Operator's identification code for access to the counter mode.
		02	Maintenance Count	00 Total Count
				01 PM Count
				02 Scanner PM Count
				03 ADF/iADF PM Count
				04 Not Used
				05 OPC Drum Count
				06 Process Unit Count
				07 Paper Transport Count (See Note)
				08 ADU Count (See Note)
				09 Dual-Path Count (See Note)
		03	Paper Feed Count	00 Sheet Bypass Count
				01 1st Paper Tray Count
				02 2nd Paper Tray Count
				03 3rd Paper Tray Count
				04 4th Paper Tray Count
		04	Scanner Count	00 ADF/iADF Count
				01 ADF/iADF Read Count
				02 Scanner Count
				03 Scanner Read Count
		05	Copy Count	00 Copy Print Count
				01 Copy Scan Count
		06	PC Count	00 PC Print Count
				01 PC Scan Count
		08	Fax Count	00 Fax Transmit Count
				01 Fax Receive Count
				02 Fax Print Count
		09	Clear All Counts	All counters are cleared.

**Note:**  
Available with Host Firmware version 2.xxxx or higher.

### 5.1.7. F8 Mode: Copier Operation Adjustment

#### For DP-2000

Set the machine to Service Mode and press "8" on the Keypad.



Press the "START" key.



Select the desired code number on the Control Panel.



If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).



Select the desired function on the Control Panel and press the "START" key.



When the "CANCEL" key is pressed, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

#### For DP-2500/3000

Set the machine to Service Mode and press "8" on the Keypad.



Press the "START" key.



Select the desired code number on the Touch Panel display.



If you wish to select another code number, scroll the menu with the arrow keys (←→).



Select the desired function on the Touch Panel display and touch the "OK" key.



When the "CANCEL" key is touched, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

**F8 Mode : For DP-2000/2500/3000**

<b>No.</b>	<b>Item</b>	<b>Function</b>
00	Check mirror movement	When replacing the exposure lamp. Procedure: a) Press the Start key to move the exposure lamp to the position (approx. 250mm from the optics home position) where it can be replaced. b) To return the optical system to the home position, press the CLEAR key.*
01-05	Not Used	
06	Error Log Print/View	a) Each time the arrow key is pressed, the machine errors or paper jam codes stored in memory are displayed, beginning with the oldest code. <b>Note:</b> Only the 30 most recent codes are displayed.
07	Error Log Clear	a) Press the Reset key. A Message "Error code can be cleared with the Start key" is displayed on the LCD.* b) Press the Start key.
08-11	Not Used	
12	Platen original size detection sensor	Adjust the slice level for the original size detection sensors automatically. Execute this mode by closing the platen cover.
13-18	Not Used	
19	Lock operation of mirror and lens (Field use only)	a) Press the Start key then the mirror unit moves to locked position for transporting the copier. b) When the mirror unit is locked, any digit key input is not be accepted. <b>Note:</b> The lock operation is automatically reset when the Power switch is turned ON again.
20-46	Not Used	
47	ADF continuous scanning test	Press START key to begin.
48	Platen continuous scanning test	Press START key to begin.
49-54	Not Used	

### 5.1.8. F9 Mode: System Maintenance

#### For DP-2000

Set the machine to Service Mode and press "9" on the Keypad.



Press the "START" key.



Select the desired code number on the Control Panel.



If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).



Select the desired function on the Control Panel and press the "START" key.



When the "CANCEL" key is pressed, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.

#### For DP-2500/3000

Set the machine to Service Mode and press "9" on the Keypad.



Press the "START" key.



Select the desired code number on the Touch Panel display.



If you wish to select another code number, scroll the menu with the arrow keys (←→).



Select the desired function on the Touch Panel display and touch the "OK" key.



When the "CANCEL" key is touched, the selected setting inputted will not be accepted.



Press the "FUNCTION" and "CLEAR" key's to exit the Service Mode.



**F9 Mode : For DP-2000/2500/3000**

Service mode	Item			Function
F9	Unit Maintenance	00	Fax Function Parameters	
		01	Service Alert Tel #	Displays the contact number when a machine malfunction occurs.
		02	Firmware Version	
		00	Host	Displays the firmware version for host.
		01	Control Panel (For DP-2500/3000)	Displays the firmware version for control panel.
		02	Scanner	Displays the firmware version for scanner.
		03	Printer	Displays the firmware version for printer.
		04	Finisher	Displays the firmware version for finisher.
		05	Printer Board (PDL)	Displays the firmware version for PDL.
		06	LAN Board	Displays the firmware version for LAN.
		07	G3B Board	Displays the firmware version for G3B Board.
		08	Modem	Displays the firmware version for modem.
		09	3rd Paper Feed Module	Displays the firmware version for 3rd Paper Feed Module.
		03	Print Device Info.	
		00	F5/F6 Parameters	Prints the memory contents of the F5 and F6 modes.
		01	Printer Report	Prints the printer report.
		02	Counter Information	Prints the counter information.
		03	System Addr. Info.	Prints the system memory setting.
		04	RAM Addr. Info.	Prints the RAM data dump list.
		04	RAM Edit Mode	Factory use only.
		05	Not Used	
		06	RAM Initialize	
		00	Parameter Initialize	Resets the Fax and Function parameters to default values.
		01	All Job Clear	Clears all Jobs stored in Flash Memory.
		02	LBP Error Log Clear	Clears the Printer Error Log.
		03	Shipment Set	Clears All Jobs, All Preset Data, Parameter Initialize & Resets the Counters (Fax).
		04	LBP Fuser Reset	Clears the LBP fuser error.
		07	Firmware Update	
		00	Host Program (4MB)	Updates the firmware in the machine with the Master Firmware Card.
		01	Host Part A (2MB)	
		02	Host Part B (2MB)	
		03	EP Board (2MB)	
		04	LAN Board (2MB)	
		08	Firmware Backup	
		00	Host Program (4MB)	Creates a Backup Firmware Card of the machine's firmware.
		01	Host Part A (2MB)	
		02	Host Part B (2MB)	
		09	PC → Flash Card	Creates a Master Firmware Card using the Firmware Update Kit. A 2MB or 4MB Flash Memory Card will be required depending upon the model.
		10	Page Memory Size	Displays the page memory size (MB).
		11	Sort Memory Size	Displays the sort memory size (MB).

## 5.2. Service Modes (For Fax)

### 5.2.1. Service Mode Table

The following service modes are provided to assist you in setting operational functions of the unit and determining the condition of the unit.

No.	Service mode	Description
1	Function Parameter Setting	Allows changes to the function parameters (the home position, etc.).
2	RAM Edit Mode	Factory use only.
3	Print Parameter List / Reports	Prints the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and Toner Order Form.
4	Modem Tests	Generates various binary, tonal and DTMF signals, by the modem.
5	Not Used	
6	RAM Initialization	Initialize RAM and restore the default value of the function parameters.
7	Not Used	
8	Check & Call	Allows input of information for Service Alert Report, Maintenance Alert Report and Toner Order Form.
9	System Maintenance	Used for Firmware Update, Firmware Backup, Parameter Restore, Parameter Backup, Transferring Firmware from the PC to the Flash Card and Sending a Received File during a fatal printer error.

### 5.2.2. Service Mode 1 (Function Parameter Setting)

Use the following procedure to change the function parameters.

Service Mode 1 : For DP-2000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V Δ
4	Press "1".	PARAMETER (000-299) ENTER PARAMETER #_
5	Enter the Function Parameter Number or press "V" or " $\Delta$ " to select the desired parameter. Ex: Changing the "ALARM STATUS" -- Enter "001" and press [SET].	PARAMETER #001 ALARM STATUS?
6	Press "START".	ALARM STATUS:Timer 1:OFF 2:Tmr 3:CONST
7	Enter the new setting value. Ex: Enter "3" for Constant.	ALARM STATUS:Const. 1:OFF 2:Tmr 3:CONST
8	Press "START". The new value will be stored and the next parameter will be displayed.	PARAMETER #002 STOP COMM.JRNL?
9	Repeat steps 4 through 7 to change other Function Parameters or Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00%

**Note:**

The following buttons provide these functions in the Service Mode:

- "START": : The new setting value is stored in the machine.
- "V" : Scroll the function parameter number down.
- " $\Delta$ " : Scroll the function parameter number up.

Service Mode 1 : For DP-2500/3000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "1". Use the ORIGINAL SIZE keys to scroll to the desired parameter. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PARAMETER (000-299) ENTER PARAMETER #_
5	Enter the Function Parameter Number. Ex: Changing the "ALARM STATUS" -- Enter "001" and press [SET].	SERVICE MODE PARAMETER #001 ALARM STATUS?
6	Press "START".	SERVICE MODE ALARM STATUS:Timer 1:OFF 2:Tmr 3:CONST
7	Enter the new setting value. Ex: Enter "3" for Constant.	SERVICE MODE ALARM STATUS:Const. 1:OFF 2:Tmr 3:CONST
8	Press "START". The new value will be stored and the next parameter will be displayed.	SERVICE MODE PARAMETER #002 STOP COMM.JRNL?
9	Repeat steps 4 through 7 to change other Function Parameters or Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

The following buttons provide these functions in the Service Mode:

"START": : The new setting value is stored in the machine.

"ORIGINAL SIZE / : Scroll the function parameter number down.

For USA INVOICE

For Other Countries A5

"ORIGINAL SIZE / : Scroll the function parameter number up.









For USA LETTER

For Other Countries A4

Function Parameter Table			
No.	Parameter	Selections	Function
000	MON/TEL DIAL	1 = Monitor 2 = TEL/DIAL	Selects whether the machine starts to TX automatically during On-Hook dialing. <b>Monitor</b> : Start to TX after pressing START <b>TEL/DIAL</b> : Start to TX automatically
001	ALARM STATUS	1 = OFF 2 = Timer (6 sec.) 3 = Constant	Selects the No Paper or No Toner alarm status. <b>OFF</b> : Alarm is disabled. <b>Timer</b> : Alarm will shut off after 6 seconds. <b>Constant</b> : Alarm will not stop until "STOP" is pressed or the error is cleared/corrected.
002	STOP COMM. JRNL	1 = Off 2 = On	Selects whether the machine prompts to print the COMM. Journal when the printout condition is set to INC and STOP is pressed during communication.
003	CONTINUOUS POLL	1 = Off 2 = Stn (Tx only) 3 = Hub (Rx only)	Selects whether the Continuous Polling feature is enabled. <b>Stn</b> : Place the document(s) on the ADF or Platen, then press the assigned Program Key to store or add the documents into a polled file. (See Note 1) <b>Hub</b> : When the polling command is initiated, the machine will continuously poll originals from the remote stations until it is interrupted by pressing "STOP".
004	NUMERIC ID SET	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts and allows to set or change the Numeric ID.
005	COUNTRY CODE	(See next page)	

Function Parameter Table			
No.	Parameter	Selections	Function
005	COUNTRY CODE	000 : Austria 001 : U.K. 002 : Canada 003 : Denmark 004 : Taiwan 005 : Finland 006 : Germany 007 : Netherlands 008 : Italy 009 : Spanish 010 : Hong Kong 011 : Australia 012 : Switzerland 013 : Norway 015 : Portuguese 016 : Ireland 017 : Belgium 018 : Sweden 019 : Turkey 020 : U.S.A. 021 : France 022 : New Zealand 025 : Japan 030 : Czech 032 : Greece 038 : Malaysia 039 : China 045 : Thailand 048 : South Africa 049 : Singapore 050 : Universal	Sets the country code after installing the Fax Communication Kit (DA-FG230). <b>Note:</b> This parameter is preset at the factory to "999". There is no need to change this parameter for the following Country Suffixes as it is automatically loaded by the Fax Host Firmware. PA : Australia PB : UK PF : France PG : Switzerland PK : China PL : Portuguese PM : Germany PS : Sweden PT : Taiwan PU : USA / Canada PV : Netherlands PX : Spain PE : Other Countries 1 PQ : Other Countries 2 PY : Other Countries 3
006	ID DISPLAY	1 = Number (Numeric ID) 2 = Chara (Character ID)	Selects the priority of displaying the ID.
007	JNL COLUMN	1 = Preset station name 2 = Received ID	Selects the contents of the ID to display on the Journal.
008	MONITOR	1 = Off 2 = On	Selects whether the Monitor is ON/OFF for monitoring fax signals. <b>(FOR SERVICE USE ONLY)</b>
009	DC LOOP	1 = Off (Normal) 2 = On (Off Hook)	Selects a false Off Hook state for back to back communication test.
010	TX LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the TX signal output level, 0 to -15 dBm in 1 dBm steps. (Refer to Chapter 4.3.)
011	RX LEVEL	1 = -43 dBm 2 = -38 dBm 3 = -33 dBm 4 = -48 dBm	Selects the receiving sensitivity of -33/-38/-43/-48 dBm.
012	DTMF LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the DTMF output level, 0 to -15 dBm in 1 dBm steps.

Function Parameter Table			
No.	Parameter	Selections	Function
013	G3 RX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 reception mode, 0dB, 4dB, 8dB or 12dB.
014	G3 TX EQL	1 = 0 dB 2 = 4 dB 3 = 8 dB 4 = 12 dB	Selects the cable equalizer for G3 transmission mode, 0dB, 4dB, 8dB or 12dB.
015 ~ 016	Not Used		
017	TX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the transmission modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note:</b> This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 32.
018	RX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the reception modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note:</b> This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 33.
019	ITU-T V.34	1 = Off 2 = On 3 = Select	Selects whether the ITU-T V.34 is Off, On or Select. <b>Select:</b> Select whether the ITU-T V.34 is Off or On, when entering Phone Book Dialing Numbers or Manual Number Dialing.
020	ITU-T ECM	1 = Off (Invalid) 2 = On (Valid)	Select the ECM mode.
021	EP TONE	1 = Off (without EP Tone) 2 = On (with EP Tone)	Selects whether to add the echo protect tone on V.29 mode. (Used when Echo Suppression is disabled.) <b>On</b> : Add <b>Off</b> : Do not add
022	SIGNAL INTERVAL	1 = 100 ms 2 = 200 ms 3 = 500 ms	Selects the time interval between the receiving signal and the transmitting signal.
023	TCF CHECK	1 = Normal (Short) 2 = Long	Selects the TCF check interval Long/Short
024	CED FREQUENCY	1 = 1080 Hz (non ITU-T) 2 = 2100 Hz	Selects the CED frequency 2100/1080 Hz
025	COMM. START-UP	1 = 1'st response 2 = 2'nd response	Selects the communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)
026	NON-STANDARD	1 = Off (Invalid) 2 = On (Valid)	Selects own mode (Panafax mode).
027	SHORT PROTOCOL B	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.

Function Parameter Table			
No.	Parameter	Selections	Function
028	SHORT PROTOCOL D	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode. When activated, it allows the machine to automatically store the modem speed for each Auto Dial Number.
029	REMOTE DIAGNOSTICS	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts Remote Diagnostics from the service station.
030	CED & 300 bps	1 = 75 ms 2 = 1 sec	Selects the pause interval between the CED and the 300 bps signal. (Used when Echo Suppression is disabled.)
031	RTC = EOLx12	1 = Off (EOLx6) 2 = On (EOLx12)	Selects the RTC signal, EOLx6 or EOLx12.
032	V34 TX START	2400-33600bps	Selects the transmission modem start speed for V.34 communication, 33600-2400 bps.
033	V34 RX START	2400-33600bps	Selects the receiving modem start speed for V.34 communication, 33600-2400 bps.
034	V34 TX Symbol Rate	2400-3429sr	Selects the transmission symbol rate for V.34, 3429/3200/3000/2800/2400 sr. <b>For DP-2000</b> Press "V" or "^" to select the symbol rate. <b>For DP-2500/3000</b> Press the following ORIGINAL SIZE keys to select the symbol rate: For USA  <b>LETTER</b> and  <b>INVOICE</b> For Other Countries  <b>A4</b> and  <b>A5</b>
035	V34 RX Symbol Rate	2400-3429sr	Selects receiving symbol rate for V.34, 3429/3429/3200/3000/2800/2400 sr. <b>For DP-2000</b> Press "V" or "^" to select the symbol rate. <b>For DP-2500/3000</b> Press the following ORIGINAL SIZE keys to select the symbol rate: For USA  <b>LETTER</b> and  <b>INVOICE</b> For Other Countries  <b>A4</b> and  <b>A5</b>
036	Not Used		
037	PROTOCOL DISPLAY	1 = Off (not displayed) 2 = On (displayed)	Selects whether to display the modem speed during communication. (Press the Job Status Key to display)
038	Not Used		
039	FLASH TIME	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
040	E/F TIME (For Germany, Austria and Switzerland only)	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
041	PAUSE TIME	1 = 1 sec. ~ 10 = 10 sec.	Selects the pause interval from 1 sec. ~ 10 sec. for dialing through a switchboard or for international calls.
042	Not Used		











Function Parameter Table			
No.	Parameter	Selections	Function
043	REDIAL INTERVAL	0 = no waiting ~ 15 = 15 minutes	Selects the redial interval from 0 to 15 minutes in 1 minute steps.
044	REDIAL COUNT	0 = no redial ~ 15 = 15 times	Selects the redial count from 0 to 15 times in 1 step intervals. <b>Note:</b> In order to comply with the requirements TBR21 in the EC countries, do not select 15 times.
045	RING DETECT COUNT	1 = 1 ring ~ 9 = 9 rings	Selects the ring detection count from 1 to 9 rings in 1 ring step intervals.
046	ON-HOOK TIME	0 = 0 sec. ~ 90 = 90 sec.	Selects the on-hook time between sequential communication calls in 1 second step intervals.
047	RESPONSE WAIT	1 = 1 sec. ~ 90 = 90 sec.	Selects the waiting interval for the response after completing the dialing.
048 049	Not Used		
050	RING DETECT MODE	1 = Normal 2 = Rough	Selects the quality of ringer detection. Use if the line signal is out of regulation, set to "Rough" so that the unit may detect the ringing signals.
051	Not Used		
052	PULSE RATE	1 = 10 pps 2 = 20 pps	Selects the dial pulse rate 10/20 pps.
053 054	Not Used		
055	BUSY TONE CHECK	1 = Off 2 = On	Selects whether to detect the Busy Tone.
056	DIAL TONE CHECK (Except for USA and Canada)	1 = Off 2 = On	Selects whether to detect dial tone before dialing the telephone number.
057	DC LOOP CHECK (Except for USA and Canada)	1 = Off (will not check) 2 = On (checks)	Selects whether the unit checks the DC Loop during communication.
058	COMM.JRNL +IMAGE	1 = Off (without image) 2 = On (with image)	Selects whether the machine prints the COMM. Journal with image.
059	CONFIDENTIAL RCV REPORT	1 = Off (does not print out) 2 = On (prints out)	Selects whether the machine prints the Confidential RCV Report.
060	VERSION	Indicates the Host software version.	
061	TX/RX//PRT/CPY COUNTER	TX/RX/PRT/CPY	Displays the transmitted, received, total printed and copied document count.
062	PRINT COUNTER	1 = Off 2 = On	Selects whether to print in the Fax Parameter List, the counter information that is displayed in the Function Parameter No. 61.
063 ~ 067	Not Used		

Function Parameter Table			
No.	Parameter	Selections	Function
068	NYSE FAX FORWARD	1 = Off 2 = On	Selects whether the machine will forward the incoming and outgoing faxes to a specified station. <b>Note:</b> Once this parameter is activated, Fax Forwarding via Fax Parameter 054 is automatically disabled, an Access Code of "0000" is automatically assigned and Fax Parameter 038 has a new setting added called "NYSE".
069	NYSE LOCAL PRINT	1 = INC 2 = ON (Always)	Selects the printing condition for the incoming faxes after FAX Forwarding. <b>INC.</b> : Prints only if FAX Forwarding fails. <b>ON</b> : Always prints.
070	LINE ERROR	1 = 128 lines 2 = 256 lines 3 = 512 lines 4 = 1024 lines 5 = 2048 lines 6 = Off (will not disconnect line)	1. Selects the line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line. 2. Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 Error Detect is set to "LINES") (See Note 1)
071	TOTAL ERROR	1 = 5% 2 = 10% 3 = 15% 4 = 20%	Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 Error Detect is set to "RATE".) (See Note 2)
072	CONTINUOUS ERROR	1 = Off (unlimited) 2 = 3 lines/STD 3 = 6 lines/STD 4 = 12 lines/STD	Selects the continuous total error criteria of Off/3/6 or 12 lines in Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No.73 Error Detect is set to "RATE".)
073	ERROR DETECT	1 = Lines 2 = Rate	Selects the error detect condition Lines/Rate.
074	RTN RECEIVE	1 = Disconnect 2 = Continue	Selects whether to disconnect the phone line or continue when "RTN" is received.
075	CODING	1 = MH (MH only) 2 = MR (MH or MR) 3 = MMR (MH or MR or MMR) 4 = JBIG	Selects the coding scheme.
076	BATCH TX	1 = Off 2 = On	Selects whether the batch transmission is available.
077	RX JAM LENGTH	1 = Off (unlimited) 2 = 2 m 3 = 8 m	Selects the maximum length of a received document that can be printed.
078 079	Not Used		
080	ORIG. TOP FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor ON position and the scanning start position.
081	ORIG. END FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor OFF position and the scanning end position.

Function Parameter Table			
No.	Parameter	Selections	Function
082	JAM LENGTH	1 = 1 m 2 = 2 m 3 = 8 m 4 = Unlimited	Selects the maximum length of the original that can be scanned.
083	Not Used		
084	LINE AS NO PAPER	1 = Ring (ring) 2 = Busy (keep line busy)	Selects whether to ring or send a busy tone to the remote station when the recording paper runs out or the unit cannot receive because of any trouble.
085	Not Used		
086	REDUCTION FINE	1 = Off 2 = On	Selects whether the resolution is preset to Fine, when sending with reduction B4→A4.
087	DARKER LEVEL	0 = Lightest Contrast	Selects the contrast level. 0← →15 Lightest← →Darkest
088	NORMAL LEVEL	~	
089	LIGHTER LEVEL	15 = Darkest Contrast	
090 091	Not Used		
092	SMOOTHING	1 = Off 2 = On	Selects whether the smoothing function is available.
093 ~ 109	Not Used		
110	MAC ADDRESS		Indicates the MAC Address.
111	LAN I/F ROM VER		Indicates the LAN I/F Firmware version.
112	INSERT EMAIL TXT	1 = Off 2 = On	Selects whether the Text Template (email message) is programmable and added on all email sent in the message body above the top line of text. (Up to 40 characters Programmed in the User Parameters.) <b>Note:</b> After enabling this feature, aside from entering the text in the User Parameters, it also has to be activated in each Auto Dial Number before it will take effect. It does not work for Direct Dialed Numbers.
113	Not Used		
114	SYMBOL SET	1 = Standard 2 = Extended	Selects whether the extended symbols other than "%" is available for Internet Parameters entry.
115	TIME ZONE	1 = Scroll 2 = Direct	Selects the setting method for Time Zone. <b>Scroll</b> : Allows using "Scroll Keys" to scroll through the Time Zone Table. <b>Direct</b> : Allows you to input the Time Zone directly, (*) key to be used as a switch between +/-.
116	OVERWRITE WARNING	1 = Yes 2 = No	Selects whether the Overwrite Warning is included on the Internet FAX Result Receipt when programming the Auto Dialer via email.
117 ~ 129	Not Used		
130	BUSY-ACK TIMING	• In Busy • After Busy • While Busy	Selects the signal timing between the BUSY and ACK signal in Printer Interface Mode.

Function Parameter Table			
No.	Parameter	Selections	Function
131	CMD RCV GRD TIMER	1 min. ~ 15 min.	Selects the Guard Timer between each GDI Command in Printer Interface Mode.
132	PRT DATA TIMER	1 min. ~ 15 min.	Selects the Guard Timer between each GDI Data Frame in Printer Interface Mode.
133	COLLATION (PRT)	1 = Off 2 = On 3 = Auto	Selects the Print Collation in Printer Interface Mode. When "Auto" is selected, print collation will operate according to the setting in Fax Parameter #65.
134	Not Used		
135	JOB END TIMER	1 sec. ~ 999 sec.	Selects the Guard Timer while printing data with the PDL Printer Driver ver. 6.
136	JAM RECOVERY	1 = Off 2 = On	Selects the JAM Recovery function in the PDL Printer Interface Mode. <b>Off:</b> Printing performance is faster, however if a paper jam occurs the jammed pages will not be reprinted automatically. <b>On:</b> Printing performance is slower, however if a paper jam occurs the jammed pages will be reprinted automatically.
137 ~ 159	Not Used		
160	VERSION	Indicates the ROM version on the FRM PC Board.	PDL Firmware version
161 ~ 199	Not Used		
209	DC LOOP	1 = Off (Normal) 2 = On (Off Hook)	Selects a false Off Hook state for back to back communication test.
210	TX LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the TX signal output level, 0 to -15 dBm in 1 dBm steps.
211	RX LEVEL	1 = -43 dBm 2 = -38 dBm 3 = -33 dBm 4 = -48 dBm	Selects the receiving sensitivity of -33/-38/-43/-48 dBm.
212	DTMF LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the DTMF output level, 0 to -15 dBm in 1 dBm steps.
213	G3 RX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 reception mode, 0dB, 4dB, 8dB or 12dB.
214	G3 TX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 transmission mode, 0dB, 4dB, 8dB or 12dB.

Function Parameter Table			
No.	Parameter	Selections	Function
217	TX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the transmission modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note:</b> This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 232.
218	RX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the reception modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps. <b>Note:</b> This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 233.
219	ITU-T V.34	1 = Off 2 = On 3 = Select	Selects whether the ITU-T V.34 is Off, On or Select. ( <b>Select:</b> Select whether the ITU-T V.34 is Off or On, when entering One-Touch/Abbreviated/Phone book Dialing Numbers or Manual Number Dialing.)
220	ITU-T ECM	1 = Off (Invalid) 2 = On (Valid)	Select the ECM mode.
221	EP TONE	1 = Off (without EP Tone) 2 = On (with EP Tone)	Selects the echo protect tone on V.29 mode, ON (added) or OFF (not added). (Used when Echo Suppression is disabled.)
222	SIGNAL INTERVAL	1 = 100 ms 2 = 200 ms 3 = 500 ms	Selects the time interval between the receiving signal and the transmitting signal.
223	TCF CHECK	1 = Normal (Short) 2 = Long	Selects the TCF check interval Long/Short
224	CED FREQUENCY	1 = 1080 Hz (non ITU-T) 2 = 2100 Hz	Selects the CED frequency 2100/1080 Hz
225	COMM. START-UP	1 = 1 <sup>st</sup> response 2 = 2 <sup>nd</sup> response	Selects the communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)
226	NON-STANDARD	1 = Off (Invalid) 2 = On (Valid)	Selects own mode (Panafax mode).
227	SHORT PROTOCOL B	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.
228	SHORT PROTOCOL D	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.
229	REMOTE DIAGNOSTICS	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts Remote Diagnostics from the service station.
230	CED & 300 bps	1 = 75 ms 2 = 1 sec	Selects the pause interval between the CED and the 300 bps signal. (Used when Echo Suppression is disabled.)
231	RTC = EOLx12	1 = Off (EOLx6) 2 = On (EOLx12)	Selects the RTC signal, EOLx6 or EOLx12.
232	V34 TX START	2400-33600bps	Selects the transmission modem start speed in V.34 communication, 33600-2400 bps.

Function Parameter Table			
No.	Parameter	Selections	Function
233	V34 RX START	2400-33600bps	Selects the receiving modem start speed in V.34 communication, 33600-2400 bps.
234	V34 TX Symbol Rate	2400-3429sr	<p>Selects the transmission symbol rate for V.34, 3429/3200/3000/2800/2400 sr.</p> <p><b>For DP-2000</b> Press "V" or "\ " to select the symbol rate.</p> <p><b>For DP-2500/3000</b> Press the following ORIGINAL SIZE keys to select the symbol rate:</p> <p>For USA  <b>LETTER</b> and  <b>INVOICE</b></p> <p>For Other Countries  <b>A4</b> and  <b>A5</b></p>
235	V34 RX Symbol Rate	2400-3429sr	<p>Selects receiving symbol rate for V.34, 3429/3429/3200/3000/2800/2400 sr.</p> <p><b>For DP-2000</b> Press "V" or "\ " to select the symbol rate.</p> <p><b>For DP-2500/3000</b> Press the following ORIGINAL SIZE keys to select the symbol rate:</p> <p>For USA  <b>LETTER</b> and  <b>INVOICE</b></p> <p>For Other Countries  <b>A4</b> and  <b>A5</b></p>
239	FLASH TIME	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
240	E/F TIME (For Germany, Austria and Switzerland only)	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
241	PAUSE TIME	1 = 1 sec. ~ 10 = 10 sec.	Selects the pause interval from 1 sec. ~ 10 sec. for dialing through a switchboard or for international calls.
245	RING DETECT COUNT	1 = 1 ring ~ 9 = 9 rings	Selects the ring detection count from 1 to 9 rings in 1 ring step intervals.
247	RESPONSE WAIT	1 = 1 sec. ~ 90 = 90 sec.	Selects the waiting interval for the response after completing the dialing.
250	RING DETECT MODE	1 = Normal 2 = Rough	Selects the quality of ringer detection. Use if the line signal is out of regulation, set to "Rough" so that the unit may detect the ringing signals.
252	PULSE RATE	1 = 10 pps 2 = 20 pps	Selects the dial pulse rate 10/20 pps.
255	BUSY TONE CHECK	1 = Off 2 = On	Selects whether to detect the Busy Tone.
256	DIAL TONE CHECK (Except for USA and Canada)	1 = Off 2 = On	Selects whether to detect dial tone before dialing the telephone number.
257	DC LOOP CHECK (Except for USA and Canada)	1 = Off (will not check) 2 = On (checks)	Selects whether the unit checks the DC Loop during communication.

Function Parameter Table			
No.	Parameter	Selections	Function
260	VERSION	Indicates the ROM version.	
270	LINE ERROR	1 = 128 lines 2 = 256 lines 3 = 512 lines 4 = 1024 lines 5 = 2048 lines 6 = Off (will not disconnect line)	1. Selects the line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line. 2. Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No. 273 Error Detect is set to "LINES") (See Note 2)
271	TOTAL ERROR	1 = 5% 2 = 10% 3 = 15% 4 = 20%	Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No. 273 Error Detect is set to "RATE") (See Note 3)
272	CONTINUOUS ERROR	1 = Off (unlimited) 2 = 3 lines/STD 3 = 6 lines/STD 4 = 12 lines/STD	Selects the continuous total error criteria of Off/3/6 or 12 lines in Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No. 273 Error Detect is set to "RATE")
273	ERROR DETECT	1 = Lines 2 = Rate	Selects the error detect condition Lines/Rate.
275	MH/MR/MMR/JBIG	1 = MH (MH only) 2 = MR (MH or MR) 3 = MMR (MH or MR or MMR) 4 = JBIG	Selects the coding scheme.

**Note 1: Continuous Polling (Station Mode)**

This feature allows you to store or add documents into a polled file in memory.

To enable the Continuous Polling feature set Function Parameter No. 003 to "2:Station". The last Program Key will be assigned with the "Store 4 Poll" Key name automatically and cannot be changed.

To prepare the document(s) to be polled, simply place the document(s) on the ADF or Platen and then press the Program Key to store or add the document(s) into a polled file.

(Note: If a regular polled file is stored in memory, the Program Key for Continuous Polling will not be accepted.)

**Note 2: Function Parameter No. 070 and 270 (Line Error)-Transmit condition of RTP/PIP or RTN/PIN**

Signal	Setting					
	1:128	2:256	3:512	4:1024	5:2048	6:Off
MCF/PIP	0-31	0-63	0-127	0-255	0-511	Always
RTP/PIP	32-63	64-127	128-255	256-511	512-1023	-
RTN/PIN	64-127	128-255	256-511	512-1023	1024-2047	-

**Note 3: Function Parameter No. 071 and 271 (Total Error)-Transmit condition of RTP/PIP or RTN/PIN**

Signal	Setting			
	1:5%	2:10%	3:15%	4:20%
MCF/PIP	0-2	0-4	0-7	0-9
RTP/PIP	3-4	5-9	8-14	10-19
RTN/PIN	5-	10-	15-	20-

**Note 4:** The default setting of parameters depends on the country's specifications or regulations. Print the Function Parameter List to confirm the default settings.

**Note 5:** The 200 series parameters are for 2nd G3 Fax Communication Port Kit (DA-FG231).







### 5.2.3. Service Mode 3 (Printout of Lists, Reports and Test Results)

From this Service Mode you can print the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and the Toner Order Form.

#### 5.2.3.1. Function Parameter List

A list of all Function Parameters can be printed by the following procedure.

Service Mode 3 for DP-2000 - Function Parameter List		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "*".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "3". Use "V" or " $\Delta$ " to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "START".	FUNC. PARAMETER LIST * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V $\Delta$
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - Function Parameter List		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "START".	SERVICE MODE FUNC. PARAMETER LIST * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE NOV-15-2000 \*\*\*\*\* TIME 12:07 \*\*\*P.01

000 MON/TEL DIAL:[Monitor] Monitor	050 RING DET MODE:[Normal] Normal
001 ALARM STATUS:[Timer] Timer	051 -----
002 STOP COMM.JRNL:[On] On	052 PULSE RATE:[10pps] 10pps
003 CONTINUOS POLL:[Off] Off	053 -----
004 NUMERIC ID SET:[On] On	054 -----
005 COUNTRY CODE:[999]999	055 BUSY TONE CHECK:[On] On
006 ID DISPLAY:[Chara] Chara	056 -----
007 JNL COLUMN:[Station] Station	057 -----
008 MONITOR:[Off] Off	058 COMM. JRNL +IMAGE:[On] On
009 DC LOOP:[Off] Off	059 CONF.RCV REPORT:[On] On
010 TX LEVEL:[-9dBm] -9dBm	060 VERSION: DP-2500 AAV11502PU
011 RX LEVEL:[-43dBm] -43dBm	061 TX/RX/PRT/CPY:000080/000168/000003/000000
012 DTMF LEVEL:[-5dBm] -5dBm	062 PRINT COUNTER:[Off] Off
013 G3 RX EQL:[0dB] 0dB	063 -----
014 G3 TX EQL:[0dB] 0dB	064 -----
015 -----	065 -----
016 -----	066 -----
017 TX START:[14400bps] 14400bps	067 -----
018 RX START:[14400bps] 14400bps	068 NYSE FAX FORWARD:[Off] Off
019 ITU-T V.34:[On] On	069 NYSE LOCAL PRINT:[Inc] inc
020 ITU-T ECM:[On] On	070 LINE ERROR:[128] 128
021 EP TONE:[Off] Off	071 TOTAL ERROR:[ 10] 10
022 SIG. INTERVAL:[500ms] 500ms	072 CONTI. ERROR:[Off] Off
023 TCF CHECK:[Normal] Normal	073 ERROR DETECT:[Rate] Rate
024 CED FREQ.: [2100Hz] 2100Hz	074 RTN RECEIVE:[Discon] Discon
025 COMM. START-UP:[1'st] 1'st	075 CODING:[JBIG] JBIG
026 NON-STANDARD:[On] On	076 BATCH TX:[On] On
027 SHORT PROTOCOL B:[On] On	077 RX JAM LENGTH:[2 m] 2 m
028 SHORT PROTOCOL D:[On] On	078 -----
029 REMOTE DIAG.: [On] On	079 -----
030 CED & 300bps:[75ms] 75ms	080 DOC TOP FEED:[0.0mm] 0.0mm
031 RTC=EQL x 12:[Off] Off	081 DOC END FEED:[0.0mm] 0.0mm
032 V34TX START:[33600bps] 33600bps	082 JAM LENGTH:[ 2 m] 2 m
033 V34RX START:[33600bps] 33600bps	083 -----
034 V34 TX SR:[3429sr] 3429sr	084 LINE AS NOPAPER:[Ring] Ring
035 V34 RX SR:[3429sr] 3429sr	085 -----
036 -----	086 REDUCTION FINE:[On] On
037 PROTOCOL DISPLAY:[Off] Off	087 DARKER LEVEL:[2] 2
038 -----	088 NORMAL LEVEL:[8] 8
039 FLASH TIME:[500] 500ms	089 LIGHTER LEVEL:[4] 4
040 -----	090 -----
041 PAUSE TIME:[3sec] 3sec	091 -----
042 -----	092 SMOOTHING:[On] On
043 REDIAL INTERVAL:[3min] 3min	093 -----
044 REDIAL COUNT:[5] 5	094 -----
045 RING DET. COUNT:[2] 2	095 -----
046 ON-HOOK TIME:[5sec] 5sec	096 -----
047 RESPONSE WAIT:[55sec] 55sec	097 -----
048 -----	098 -----
049 -----	099 -----

Note:The power must be reset for the new parameter settings to take effect.

-PANASONIC DP-2500-

\*\*\*\*\* -PANASONIC DP-2500 - \*\*\*\*\* -12345678901234567890- \*\*\*\*\*

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE NOV-15-2000 \*\*\*\*\* TIME 12:07 \*\*\*P.02

100 -----	150 -----
101 -----	151 -----
102 -----	152 -----
103 -----	153 -----
104 -----	154 -----
105 -----	155 -----
106 -----	156 -----
107 -----	157 -----
108 -----	158 -----
109 -----	159 -----
110 MAC ADDRESS:080023000177	160 VERSION: OPTPEBBV31509
111 LAN I/F VERSION : OPTLAAAV00600AU	161 -----
112 INSERT EMAIL TXT:[Off] Off	162 -----
113 -----	163 -----
114 SYMBOL SET:[Std] Std	164 -----
115 TIME ZONE:[Direct] Direct	165 -----
116 OVERWRITE WARNING:[Yes] Yes	166 -----
117 -----	167 -----
118 -----	168 -----
119 -----	169 -----
120 -----	170 -----
121 -----	171 -----
122 -----	172 -----
123 -----	173 -----
124 -----	174 -----
125 -----	175 -----
126 -----	176 -----
127 -----	177 -----
128 -----	178 -----
129 -----	179 -----
130 BUSY-ACK TIMING:[In Busy] In Busy	180 -----
131 CMD RCV GRD TIMER:[3min] 3min	181 -----
132 PRT DATA TIMER:[1min] 1min	182 -----
133 COLLATION(PRT):[Auto] Auto	183 -----
134 COLLATION (PC):[Auto] Auto	184 -----
135 JOB END TIMER:[30sec] 30sec	185 -----
136 JAM RECOVERY:[Off] Off	186 -----
137 -----	187 -----
138 -----	188 -----
139 -----	189 -----
140 -----	190 -----
141 -----	191 -----
142 -----	192 -----
143 -----	193 -----
144 -----	194 -----
145 -----	195 -----
146 -----	196 -----
147 -----	197 -----
148 -----	198 -----
149 -----	199 -----

Note:The power must be reset for the new parameter settings to take effect.

-PANASONIC DP-2500-

\*\*\*\*\* -PANASONIC DP-2500 - \*\*\*\*\* -12345678901234567890- \*\*\*\*\*

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE NOV-15-2000 \*\*\*\*\* TIME 12:07 \*\*\*P.03

200	-----	250	RING DET MODE:[Normal] Normal
201	-----	251	-----
202	-----	252	PULSE RATE:[10pps] 10pps
203	-----	253	-----
204	-----	254	-----
205	-----	255	BUSY TONE CHECK:[On] On
206	-----	256	-----
207	-----	257	-----
208	-----	258	-----
209	DC LOOP:[Off] Off	259	-----
210	TX LEVEL:[-9dBm] -9dBm	260	VERSION: DP-2500 AAV10100AU
211	RX LEVEL:[-43dBm] -43dBm	261	-----
212	DTMF LEVEL:[-5dBm] -5dBm	262	-----
213	G3 RX EQL:[0dB] 0dB	263	-----
214	G3 TX EQL:[0dB] 0dB	264	-----
215	-----	265	-----
216	-----	266	-----
217	TX START:[14400bps ] 14400bps	267	-----
218	RX START:[14400bps ] 14400bps	268	-----
219	ITU-T V.34:[On] On	269	-----
220	ITU-T ECM:[On] On	270	LINE ERROR:[128] 128
221	EP TONE:[Off] Off	271	TOTAL ERROR:[ 10] 10
222	SIG. INTERVAL:[500ms] 500ms	272	CONTI. ERROR:[Off] Off
223	TCF CHECK:[Normal] Normal	273	ERROR DETECT:[Rate] Rate
224	CED FREQ.: [2100Hz] 2100Hz	274	-----
225	COMM. START-UP:[1'st] 1'st	275	CODING:[JBIG] JBIG
226	NON-STANDARD:[On] On	276	-----
227	SHORT PROTOCOL B:[On] On	277	-----
228	SHORT PROTOCOL D:[On] On	278	-----
229	REMOTE DIAG.: [On] On	279	-----
230	CED & 300bps:[75ms] 75ms	280	-----
231	RTC=EOL x 12:[Off] Off	281	-----
232	V34 TX START:[33600bps] 33600bps	282	-----
233	V34 RX START:[33600bps] 33600bps	283	-----
234	V34 TX SR:[3429sr] 3429sr	284	-----
235	V34 RX SR:[3429sr] 3429sr	285	-----
236	-----	286	-----
237	-----	287	-----
238	-----	288	-----
239	FLASH TIME:[500] 500ms	289	-----
240	-----	290	-----
241	PAUSE TIME:[3sec] 3sec	291	-----
242	-----	292	-----
243	-----	293	-----
244	-----	294	-----
245	RING DET. COUNT:[2] 2	295	-----
246	-----	296	-----
247	RESPONSE WAIT:[55sec] 55sec	297	-----
248	-----	298	-----
249	-----	299	-----

Note:The power must be reset for the new parameter settings to take effect.

-PANASONIC DP-2500 -

\*\*\*\*\* -PANASONIC DP-2500 - \*\*\*\*\* -12345678901234567890- \*\*\*\*\*





### Note:

1. [ ] - Factory Default
2. The contents of the Function Parameter List may vary depending on the country's regulations.
3. " \* " mark will be shown on the left side of number when setting was changed from default.

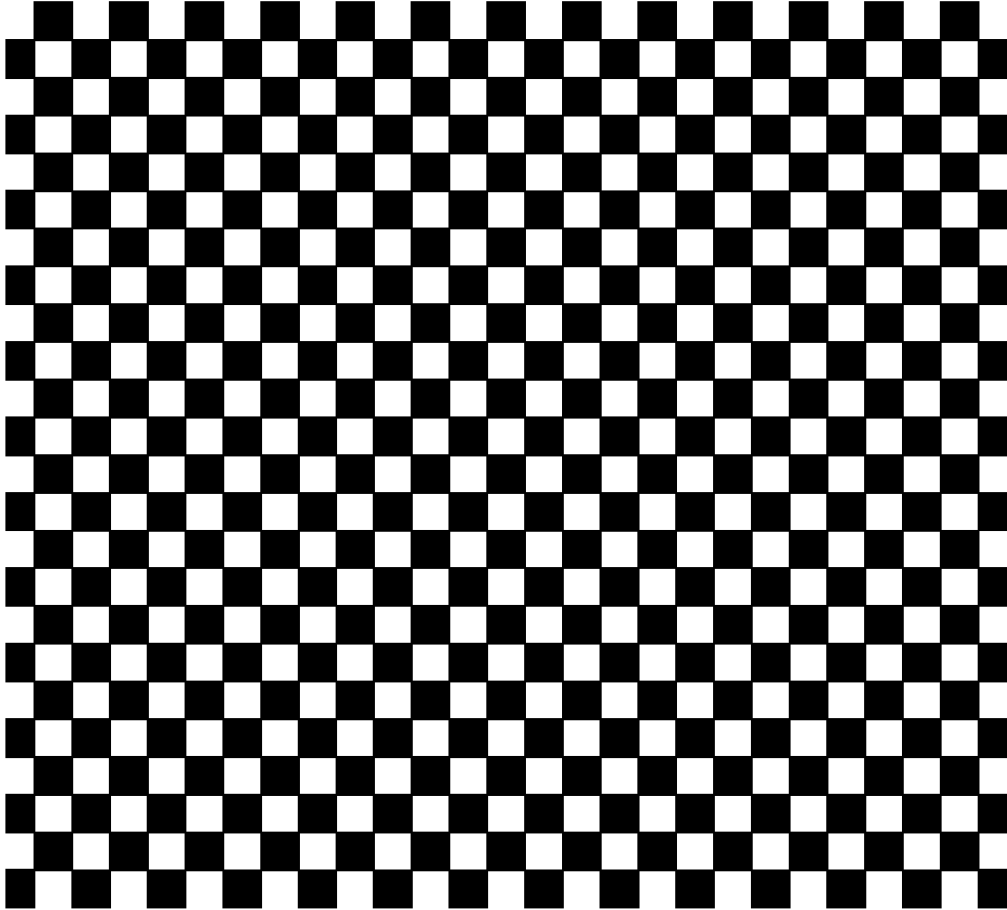
### 5.2.3.2. Page Memory Test

A test pattern prints out for checking the page memory (IC120 and IC121 on the SC PCB) and printer mechanism using the following procedure.

Service Mode 3 for DP-2000 - Page Memory Test		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V Δ
4	Press "3". Use "V" or "Δ" to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "3" and "START".	PAGE MEMORY TEST * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Δ
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - Page Memory Test		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "3" and "START".	SERVICE MODE PAGE MEMORY TEST * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX





NOV-15-2000 15:00  
VERSION: DP-2500 AAV11502PU  
LBP ROM VERSION :400046  
MEMORY SIZE: (2MB)  
TX/RX/PRT/CPY:000123/000456/000789/000333  
SHIPMENT SET



### 5.2.3.3. Printer Report

All printer errors are logged on the Printer Report which can be printed by the following procedure.

Service Mode 3 for DP-2000 - Printer Report		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "3". Use "V" or " $\Delta$ " to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "4" and "START".	PRINTER REPORT * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V $\Delta$
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - Printer Report		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "4" and "START".	SERVICE MODE PRINTER REPORT * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX



\*\*\*\*\*-PRINTER REPORT-\*\*\*\*\* DATE NOV-15-2000 \*\*\*\*\* TIME 19:02\*\*\*\*\*

LAST PRINT ERROR : NOV-15 15:38 NO. 001-12

CUSTOMER ID : 1234567890123456

FAX ROM VERSION : DP-2500 AAT00200AU

LBP ROM VERSION : 130002

TRANSMIT COUNTER : 000475

RECEIVE COUNTER : 000398

COPY COUNTER : 001083

PRINT COUNTER : 001128

PRINT ERROR : 1.NOV-11-1999 15:38 NO.001-12

2.NOV-10-1999 10:48 NO.001-11

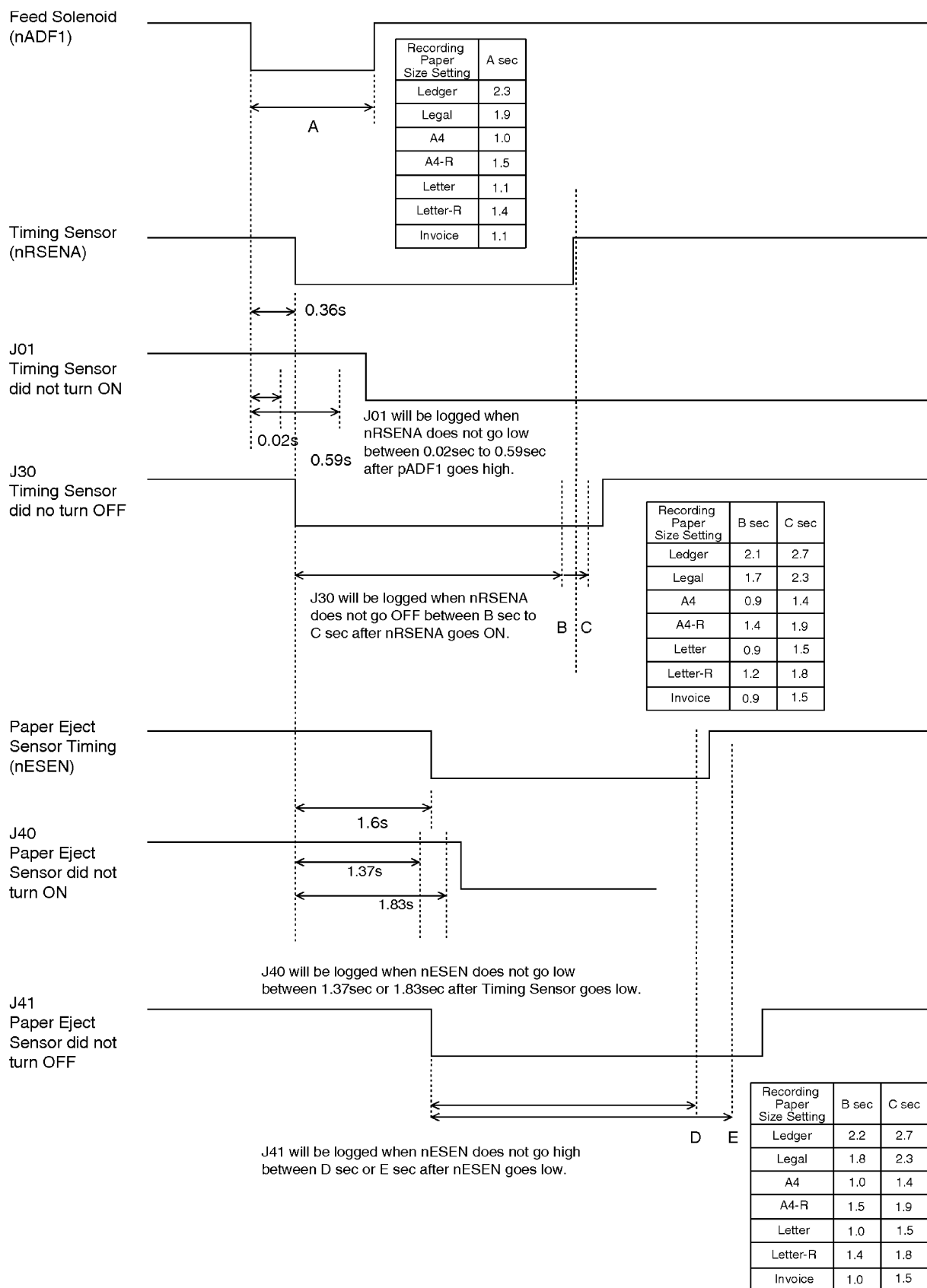
3.NOV-09-1999 15:23 NO.004-36

-PANASONIC DP-2500-

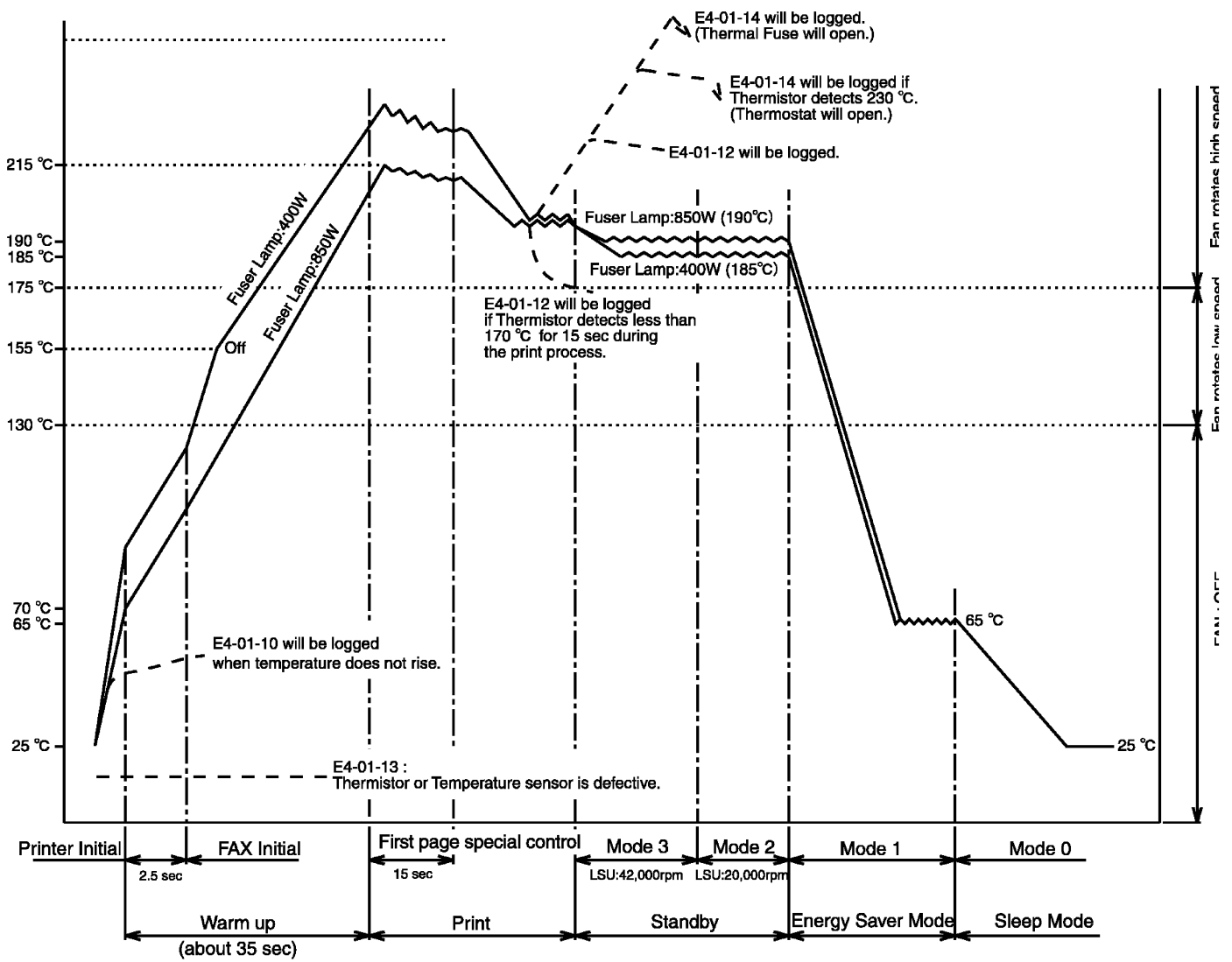
\*\*\*\*\*-PANAFAX DP-2500-\*\*\*\*\* \*\*\*\*\*-12345678901234567890-\*\*\*\*\*

## 1. Printer Error Detail Explanation

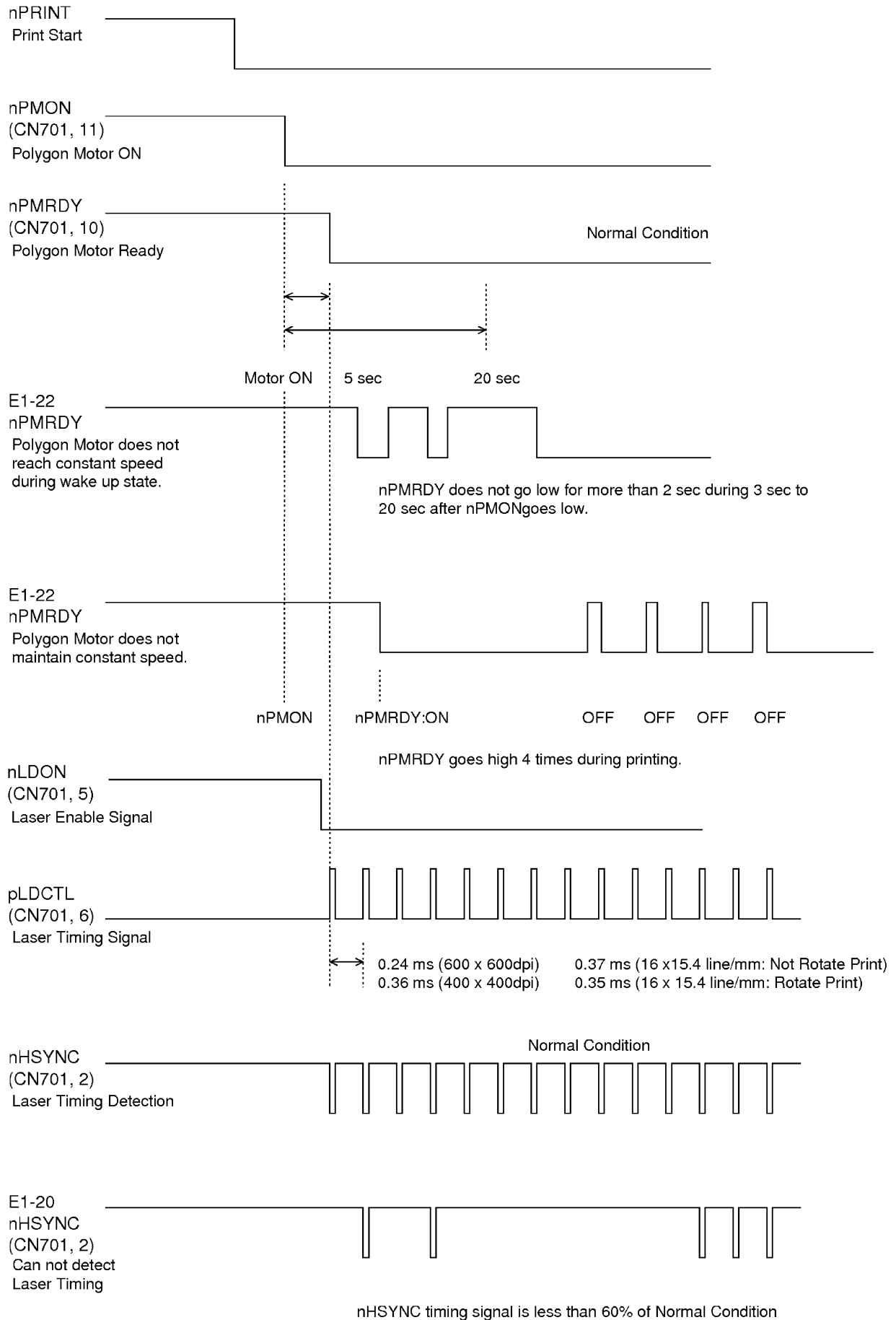
### Recording Paper Jam Detection (From 1st Tray to Inner Tray 1)



## Fuser Error Detection

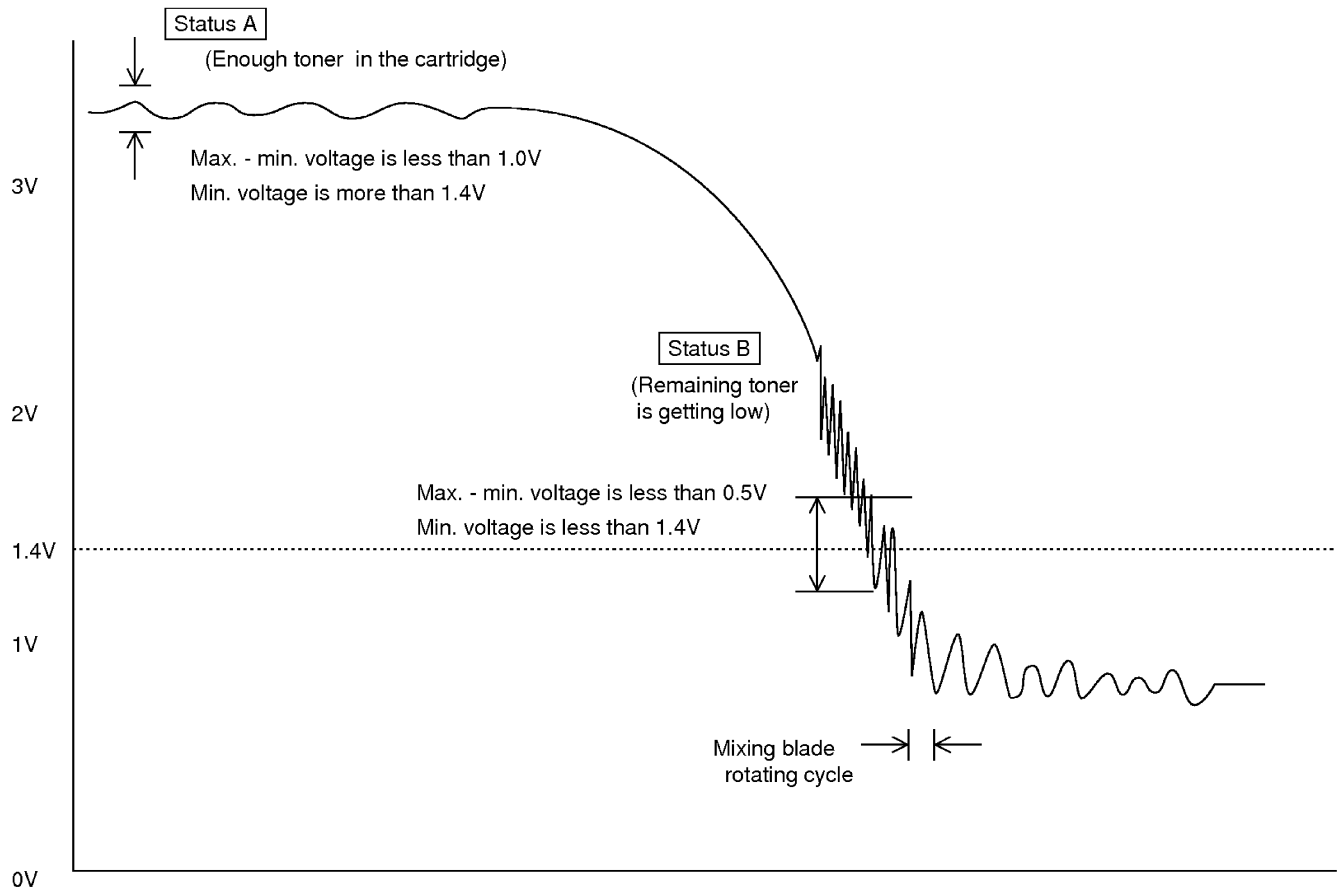


## LSU Error Detection



## Out of Toner Detection

### Toner Sensor Output Signal



Toner Sensor output may change when the mixing blade passes above the Toner Sensor. Therefore the output signal has a max. voltage and min. voltage during mixing blade rotation cycle (2.1 sec.).

#### E043 (U13)

If the unit detects Status B, 10 times during printing, the machine recognizes that the remaining toner is low and the display shows "REPLACE TONER CARTRIDGE".

#### E041 (U13)

After detecting E043 and the LBP Print Available Counter Value reaches "0" (after 300 pages are printed), the unit logs E041 (OUT OF TONER).





#### E45 (U13)

If the Waste Toner Box is not installed, the unit logs E045 and displays "NO WASTE TONER BOX".

### 5.2.3.4. All Document Files

Print the document files from the Flash Memory.





Service Mode 3 for DP-2000 - All Document Files		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "3". Use "V" or " $\Delta$ " to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "5" and "START".	ALL DOCUMENT FILES * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V $\Delta$
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - All Document Files		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "5" and "START".	SERVICE MODE ALL DOCUMENT FILES * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

### 5.2.3.5. Protocol Trace

Print a Protocol Trace Report for the previous communication.

Service Mode 3 for DP-2000 - Protocol Trace		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "*".	SERVICE MODE ENTER NO. OR V Δ
4	Press "3". Use "V" or "Δ" to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5a	Press "6" and "START".	PROTOCOL TRACE 1:LINE-1
6a	Press "START".	PROTOCOL TRACE * PRINTING *
5b	Press "6", "START" and "2".	PROTOCOL TRACE 2:LINE-2
6b	Press "START".	PROTOCOL TRACE * PRINTING *
7	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Δ
8	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - Protocol Trace		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "*".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5a	Press "6" and "START".	SERVICE MODE PROTOCOL TRACE 1:LINE-1

Service Mode 3 for DP-2500/3000 - Protocol Trace		
Step	Operation or Unit Condition	LCD Display
6a	Press "START".	SERVICE MODE PROTOCOL TRACE * PRINTING *
5b	Press "6", "START" and "2".	SERVICE MODE PROTOCOL TRACE 2:LINE-2
6b	Press "START".	SERVICE MODE PROTOCOL TRACE * PRINTING *
7	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
8	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

This field (LINE-1 or LINE-2) appears only when the 2nd G3 Fax Communication Port Kit is installed.







***** PROTOCOL LOG. REPORT ***** DATE NOV-15-2000 ***** TIME 16:56 *****	
STATUS	: OK
MODE	: ECM-TX (STANDARD)
SPEED	: 9600bps 0MS/L
REMOTE CAPA.	: DIS 00 CE B9 C4 80 12
LOCAL CAPA.	: TSI 2B 20 20 20 38 37 2B 2B 2B 2B 39 38 36 36 35 34 37 38 38 30 DCS 00 C6 F8 44
COMMAND LOG.	
REMOTE	: NSF CSI DIS CFR
LOCAL	: TSI DCS PIX PPS-EOP
REMOTE	: MCF
LOCAL	: DCN
-PANASONIC DP-2500-	
*****-PANASONIC DP-2500-*****12345678901234567890-*****	



### 5.2.3.6. Toner Cartridge Order Form

The Toner Cartridge Order Form can be printed out manually by the following procedure.

Service Mode 3 for DP-2000 - Toner Cartridge Order Form		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "*".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "3". Use "V" or " $\Delta$ " to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "7" and "START".	TONER ORDER FORM * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V $\Delta$
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 3 for DP-2500/3000 - Toner Cartridge Order Form		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "*".	SERVICE MODE (1-9) ENTER NO.
4	Press "3". Use the ORIGINAL SIZE keys to scroll to the desired printout. For USA  LETTER and   INVOICE For Other Countries  A4 and   A5	SERVICE MODE PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press "7" and "START".	SERVICE MODE TONER ORDER FORM * PRINTING *
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE (1-9) ENTER NO.
7	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

\*\*\*\*\*  
 > TONER CARTRIDGE ORDER FORM <  
 \*\*\*\*\*

\*\*\*\* The toner supply in your machine is running low \*\*\*\* (1)  
 To order a replacement Cartridge from your Authorized Dealer

Panasonic Corp. (2)

by Phone: 1 201 111 5555 (3)  
 by Fax: 1 201 111 4444 (4)

Thank you for your order.

Customer Name and Address  
 =====

Ship to: _____	Bill to: _____
_____	_____
_____	_____
Attention: _____	Attention: _____
Phone No.: _____	Phone No.: _____
Customer ID: ABC COMPANY (5)	P.O. No.(if required): _____
Toner Cartridge: DQ-TU18B (6)	Serial No.: _____

Quantity Required:

_____	_____/_____/_____
Print your name and title	Signature & Date

## Explanation of Contents

- |                               |   |
|-------------------------------|---|
| (1) Low Toner Message (Fixed) | "The toner supply in your machine is running low" |
| (2) Dealer Name               | Up to 25 digits                                   |
| (3) Toner Order Tel #         | Up to 36 digits                                   |
| (4) Toner Order Fax #         | Up to 36 digits                                   |
| (5) Customer ID               | Up to 16 characters (User Identification Code)    |
| (6) Toner Cartridge No.       | DQ-TU18B  |






## 5.2.4. Service Mode 4 (Modem Test)

### 5.2.4.1. Binary Signal

This Service Mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

Service Mode 4 for DP-2000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V Δ
4	Press "4". (See Note) Select Line. <ul style="list-style-type: none"><li>• Press "1" for LINE-1.</li><li>• Press "2" for LINE-2.</li></ul>	MODEM TEST 1:LINE-1
5	Press "START". Use "V" or "Δ" to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
6	Press "START".	SIGNAL TEST
7	Enter the signal number (1-9) to select the binary signal.	SIGNAL TEST 300bps
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SIGNAL TEST
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00%

Service Mode 4 for DP-2500/3000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "4". (See Note) Select Line. <ul style="list-style-type: none"><li>• Press "1" for LINE-1.</li><li>• Press "2" for LINE-2.</li></ul>	SERVICE MODE MODEM TEST 1:LINE-1

Service Mode 4 for DP-2500/3000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
5	Press "START". Use the ORIGINAL SIZE keys to scroll to the desired Modem Test.  For USA  LETTER and   INVOICE For Other Countries  A4 and  A5	SERVICE MODE MODEM TEST (1-5) 1: SIGNAL TEST
6	Press "START".	SERVICE MODE SIGNAL TEST
7	Enter the signal number (1-9) to select the binary signal.	SERVICE MODE SIGNAL TEST 300bps
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SERVICE MODE SIGNAL TEST
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

This field (LINE-1 or LINE-2) appears only when the 2nd G3 Fax Communication Port Kit is installed.





Binary Signal Table

Number	Signals
1	V21 300bps
2	V27ter 2400bps
3	V27ter 4800bps
4	V29 7200bps
5	V29 9600bps
6	V17 TC7200bps
7	V17 TC9600bps
8	V33 12000bps
9	V33 14400bps

### 5.2.4.2. Tonal Signal

This Service Mode is used to check the tonal signal output. Signals can be output to the line using the following procedure.

Service Mode 4 for DP-2000 - Tonal Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "*".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	MODEM TEST 1:LINE-1
5	Press "START". Use "V" or " $\Delta$ " to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
6	Press "2" and "START".	TONAL TEST
7	Enter the signal number (1-7) to select the binary signal.	TONAL TEST 1080Hz
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	TONAL TEST
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00%

Service Mode 4 for DP-2500/3000 - Tonal Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "*".	SERVICE MODE (1-9) ENTER NO.
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	SERVICE MODE MODEM TEST 1:LINE-1
5	Press "START". Use the ORIGINAL SIZE keys to scroll to the desired Modem Test.  For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE MODEM TEST (1-5) 1:SIGNAL TEST

Service Mode 4 for DP-2500/3000 - Tonal Signal		
Step	Operation or Unit Condition	LCD Display
6	Press "2" and "START".	SERVICE MODE TONAL TEST
7	Enter the signal number (1-7) to select the binary signal.	SERVICE MODE TONAL TEST 1080Hz
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SERVICE MODE TONAL TEST
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

This field (LINE-1 or LINE-2) appears only when the 2nd G3 Fax Communication Port Kit is installed.

Tonal Signal Table

Number	Signals
1	462 Hz
2	1080 Hz
3	1100 Hz
4	1300 Hz
5	1650 Hz
6	1850 Hz
7	2100 Hz

### 5.2.4.3. DTMF Signal

This Service Mode is used to check the DTMF (Dual Tone Multi Frequency) signal output. The DTMF signal can be generated using the following procedure.

Service Mode 4 for DP-2000 - DTMF Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "*".	SERVICE MODE ENTER NO. OR V Δ
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	MODEM TEST 1:LINE-1
5	Press "START". Use "V" or "Δ" to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
6	Press "3" and "START".	DTMF TEST (1-2) 1.SINGLE TONE
7a	Press "START" for DTMF Single Tone Generation.	TONAL TEST 1080Hz
8a	Enter the signal number (1-8) to select the DTMF signal.	SINGLE TONE
7b	Press "2" and "START" for Dual Tone Generation.	SINGLE TONE 697Hz
8b	Enter the signal number (0-#) to select the DTMF Dual tone.	DUAL TONE (0)
9	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7a or 7b.	SINGLE TONE
10	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00%

Service Mode 4 for DP-2500/3000 - DTMF Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "*".	SERVICE MODE (1-9) ENTER NO.

Service Mode 4 for DP-2500/3000 - DTMF Signal		
Step	Operation or Unit Condition	LCD Display
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	SERVICE MODE MODEM TEST 1:LINE-1
5	Press "START". Use the ORIGINAL SIZE keys to scroll to the desired Modem Test. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE MODEM TEST (1-5) 1:SIGNAL TEST
6	Press "3" and "START".	SERVICE MODE DTMF TEST (1-2) 1.SINGLE TONE
7a	Press "START" for DTMF Single Tone Generation.	SERVICE MODE SINGLE TONE
8a	Enter the signal number (1-8) to select the DTMF signal.	SERVICE MODE SINGLE TONE 697Hz
7b	Press "2" and "START" for Dual Tone Generation.	SERVICE MODE DUAL TONE
8b	Enter the signal number (0-#) to select the DTMF Dual tone.	SERVICE MODE DUAL TONE (0)
9	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7a or 7b.	SERVICE MODE SINGLE TONE
10	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

This field (LINE-1 or LINE-2) appears only when the 2nd G3 Fax Communication Port Kit is installed.



DTMF Single Tone Table

Number	DTMF Signal Tones
1	697 Hz
2	770 Hz
3	852 Hz
4	941 Hz
5	1209 Hz
6	1336 Hz
7	1477 Hz
8	1633 Hz

DTMF Dual Tone Table

Number	DTMF Dual Tones
0	941 Hz + 1336 Hz
1	697 Hz + 1209 Hz
2	697 Hz + 1336 Hz
3	697 Hz + 1477 Hz
4	770 Hz + 1209 Hz
5	770 Hz + 1336 Hz
6	770 Hz + 1477 Hz
7	852 Hz + 1209 Hz
8	852 Hz + 1336 Hz
9	852 Hz + 1477 Hz
*	941 Hz + 1209 Hz
#	941 Hz + 1477 Hz

#### 5.2.4.4. Binary Signal (V.34)

This Service Mode is used to check the binary signal output. Signals can be output to the line using the following procedure. (V.34)

Service Mode 4 for DP-2000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V $\Delta$
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V $\Delta$
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	MODEM TEST 1:LINE-1
5	Press "START". Use "V" or " $\wedge$ " to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
6	Press "4" and "START".	V.34 MODEM TEST ENTER NO._
7	Enter the signal number (01-61) and press [SET] to select the binary signal.	V.34 MODEM TEST V34 2400sr 2400bps
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7.	V.34 MODEM TEST ENTER NO._
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00%

Service Mode 4 for DP-2500/3000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "4". (See Note) Select Line. • Press "1" for LINE-1. • Press "2" for LINE-2.	SERVICE MODE MODEM TEST 1:LINE-1
5	Press "START". Use the ORIGINAL SIZE keys to scroll to the desired Modem Test.  For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE MODEM TEST (1-5) 1:SIGNAL TEST

Service Mode 4 for DP-2500/3000 - Binary Signal		
Step	Operation or Unit Condition	LCD Display
6	Press "4" and "START".	SERVICE MODE V.34 MODEM TEST
7	Enter the signal number (01-61) and press [SET] to select the binary signal.	SERVICE MODE V.34 MODEM TEST V34 2400sr 2400bps
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SERVICE MODE V.34 MODEM TEST
9	Press "STOP" twice to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

**Note:**

This field (LINE-1 or LINE-2) appears only when the 2nd G3 Fax Communication Port Kit is installed.

Binary Signal Table

Number	Signals	Number	Signals	Number	Signals
01	V34 2400 sr 2400 bps	22	V34 3000 sr 9600 bps	43	V34 3429 sr 4800 bps
02	V34 2400 sr 4800 bps	23	V34 3000 sr 12000 bps	44	V34 3429 sr 7200 bps
03	V34 2400 sr 7200 bps	24	V34 3000 sr 14400 bps	45	V34 3429 sr 9600 bps
04	V34 2400 sr 9600 bps	25	V34 3000 sr 16800 bps	46	V34 3429 sr 12000 bps
05	V34 2400 sr 12000 bps	26	V34 3000 sr 19200 bps	47	V34 3000 sr 19200 bps
06	V34 2400 sr 14400 bps	27	V34 3000 sr 21600 bps	48	V34 3429 sr 16800 bps
07	V34 2400 sr 16800 bps	28	V34 3000 sr 24000 bps	49	V34 3429 sr 19200 bps
08	V34 2400 sr 19200 bps	29	V34 3000 sr 26400 bps	50	V34 3429 sr 21600 bps
09	V34 2400 sr 21600 bps	30	V34 3000 sr 28800 bps	51	V34 3429 sr 24000 bps
10	V34 2800 sr 4800 bps	31	V34 3200 sr 4800 bps	52	V34 3429 sr 26400 bps
11	V34 2800 sr 7200 bps	32	V34 3200 sr 7200 bps	53	V34 3429 sr 28800 bps
12	V34 2800 sr 9600 bps	33	V34 3200 sr 9600 bps	54	V34 3429 sr 31200 bps
13	V34 2800 sr 12000 bps	34	V34 3200 sr 12000 bps	55	V34 3429 sr 33600 bps
14	V34 2800 sr 14400 bps	35	V34 3200 sr 14400 bps	56	ANSam
15	V34 2800 sr 16800 bps	36	V34 3200 sr 16800 bps	57	CM
16	V34 2800 sr 19200 bps	37	V34 3200 sr 19200 bps	58	JM
17	V34 2800 sr 21600 bps	38	V34 3200 sr 21600 bps	59	INFO0c & TONEB
18	V34 2800 sr 24000 bps	39	V34 3200 sr 24000 bps	60	INFO0c & TONEA
19	V34 2800 sr 26400 bps	40	V34 3200 sr 26400 bps	61	PPh & AC & ALT
20	V34 3000 sr 4800 bps	41	V34 3200 sr 28800 bps		
21	V34 3000 sr 7200 bps	42	V34 3200 sr 31200 bps		









### 5.2.5. Service Mode 6 (RAM Initialization)

Initializes RAM and restores the Function Parameters to their default values.

**Note:**

This operation should be performed when the unit is first installed.

Service Mode 6 for DP-2000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V Δ
4	Press "6". Use "V" or "Δ" to scroll to the desired RAM Initialization.	* RAM INITIALIZE * PARAMETER INITIALIZE
5	Press "V" or "Δ" to select the initialization mode.	* RAM INITIALIZE * LOGO/ID/PSWD CLEAR
6	Press "START".	LOGO/ID/PSWD CLEAR * COMPLETED *
7	Return to step 3 and press "STOP" to return to standby.	NOV-15-2000 15:00 00%

Service Mode 6 for DP-2500/3000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "6". Use the ORIGINAL SIZE keys to scroll to the desired RAM Initialization. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE * RAM INITIALIZE * PARAMETER INITIALIZE
5	Press the following ORIGINAL SIZE keys to select the initialization mode: For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE * RAM INITIALIZE * LOGO/ID/PSWD CLEAR
6	Press "START".	SERVICE MODE LOGO/ID/PSWD CLEAR * COMPLETED *

Service Mode 6 for DP-2500/3000		
Step	Operation or Unit Condition	LCD Display
7	Return to step 3 and press "STOP" to return to standby.	<div>NOV-15-2000 15:00 00%</div> <div>READY TO FAX</div>

RAM Initialization Table

No.	Initialize Mode	Description
99	SHIPMENT SET (A)	Deletes all setting information, except parameter number 80 and 81, then set default values.
98	SHIPMENT SET (B)	Deletes all setting information, except parameter number 61, 80 and 81, then set default values.
97	FLASH MEMORY CLEAR	Deletes all information in the Flash Memory.
1#	MANUFACTURE SET	Factory use only. DO NOT USE IN THE FIELD.
16	LBP ERROR LOG CLEAR	Clears the Printer Error Log.
15	LOGO/ID/PSWD CLEAR	Clears the Logo, ID, Polling Password.
14	ALL JOB CLEAR	Clears all Jobs stored in Flash Memory.
13	PROGRAM DIAL CLEAR	Clears the Program keys.
12	AUTO DIAL CLEAR	Clears the One-touch, ABBR Numbers and Phone Books.
11	JOURNAL CLEAR	Clears the Journal contents.
*	PARAMETER INITIALIZE	Restores the Fax and Function Parameters to default values.

## 5.2.6. Service Mode 8 (Check & Call)

### 5.2.6.1. Overview

This feature enables the Authorized Servicing Dealers to manage and improve the machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

1. The machine's printer error information is stored in the Printer Report.
2. The printer report can be manually printed when required.
3. When printer errors occurs, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number or email address.
4. When the unit detects Low Toner or PM counter reached the maintenance timing, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number or email address.
5. When the unit detects Low Toner, it can automatically print out the Toner Order Form with pre-registered order information.

### 5.2.6.2. Printer Reports

#### • Conditions under which a report can be printed or transmitted

##### 1. Manual print

The Printer Report can be printed by Service Mode 3. (See Sect. 5.2.3.1.)

##### 2. Automatic transmission/printout

###### a. Service Alert Report

When the unit detects an Emergency Printer Error, the unit will immediately transmit the Service Alert Report to the pre-registered telephone number or email address. However, the unit will not transmit the Service Alert Report if it finds the same error within the same date in the error log.

###### b. Maintenance Alert Report

When the unit detects Low Toner, the unit can automatically transmit the Maintenance Alert Report to the pre-registered telephone number or email address. Refer to the Printer Error Code Table.

###### c. Toner Order Form

When the unit detects Low Toner, the unit can automatically print the Toner Order Form with the pre-registered order information.

#### Note:

The Service and Maintenance Alert Reports are managed in the same manner as the normal memory transmission (Retry, Incomplete, File List, Display while it is transmitting, Journal).

#### • Printer Error Code Table

Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
E1-20	22	○	○	Laser unit horizontal synchronization error.
E1-22	20	○	○	Polygon motor does not reach to constant speed within specified time.
	21	○	○	Polygon motor does not rotate constantly.
E3-20	41	○	○	Main motor (DC motor) rotation error.
E4-01	10	○	○	Fuser temperature does not increase even heater on.
	11	○	○	Fuser temperature does not decrease even heater off.
	12	○	○	Overshoot or undershoot occurred.
	13	○	○	Thermistor open.
	14	○	○	Detect overheat.
E4-10	30	○	○	Exhaust fan motor (1) does not rotate.

Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
E5-11	40	○	○	Fuser Thermistor and Toner sensor error.
E5-12	-	○	○	Main CPU/LPC interface error.
E5-22	51	○	○	Finisher/LPC unit interface error.
E7-10	-	○	○	Sub CPU System error.
E7-11	-	○	○	Scanning abnormal from Platen Glass.
E7-12	-	○	○	Xenon Lamp is Disconnected.
E7-20	-	○	○	Finisher Paper Exit Motor.
E7-21	-	○	○	Finisher Paper Exit Motor.
E7-22	-	○	○	Finisher Tamper Motor.
E7-23	-	○	○	Finisher Staple Motor.
E7-27	-	○	○	Finisher Tray Shift Motor.
E7-28	-	○	○	Finisher Bundle Process Motor.
E13	-			Out of Toner.
J00	80	○		Paper jam. Refer to the Jam Error Code Table for details.
J01	81	○		
J02	82	○		
J03	83	○		
J04	84	○		
J07	85	○		
J08	86	○		
J09	87	○		
J12	89	○		
J13	8A	○		
J14	8B	○		
J22	70	○		
J23	71	○		
J24	72	○		
J30	88	○		
J33	73	○		
J34	B4	○		
J40	8C	○		
J41	8D	○		
J42	74	○		
J45	8E	○		
J46	8F	○		
J47	75	○		
J50	A0	○		
J51	A1	○		
J52	A2	○		
J53	A3	○		
J55	A4	○		
J55	A8	○		
J56	A5	○		
J56	A9	○		
J57	A6	○		

Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
J57	AA	O		Paper jam. Refer to the Jam Error Code Table for details.
J58	A7	O		
J58	AB	O		
J59	76	O		
J59	77	O		
J59	78	O		
J59	79	O		
J60	C0	O		
J61	C5	O		
J62	C1	O		
J63	C2	O		
J64	C3	O		
J65	C4	O		
J66	C6	O		
J67	C7	O		
J80	B0	O		
J81	B1	O		
J82	B2	O		
J83	B3	O		
J84	B5	O		
J85	B6	O		
J86	B7	O		
J87	B8	O		
J88	7A	O		
J89	7B	O		
J89	7C	O		
J89	7D	O		
J90	90	O		
J91	91	O		
U1	61			Front Cover Open.
U1	62			Right Cover Open.
U13	60			No Toner Cartridge is installed.
U13			X	Low Toner
U6	66			1st Feed Cover Open.
U6	67			2nd Feed Cover Open.
U6	68			3rd Feed Cover Open.
U6	69			4th Feed Cover Open.
U6	6A			Paper Transport Unit Open.

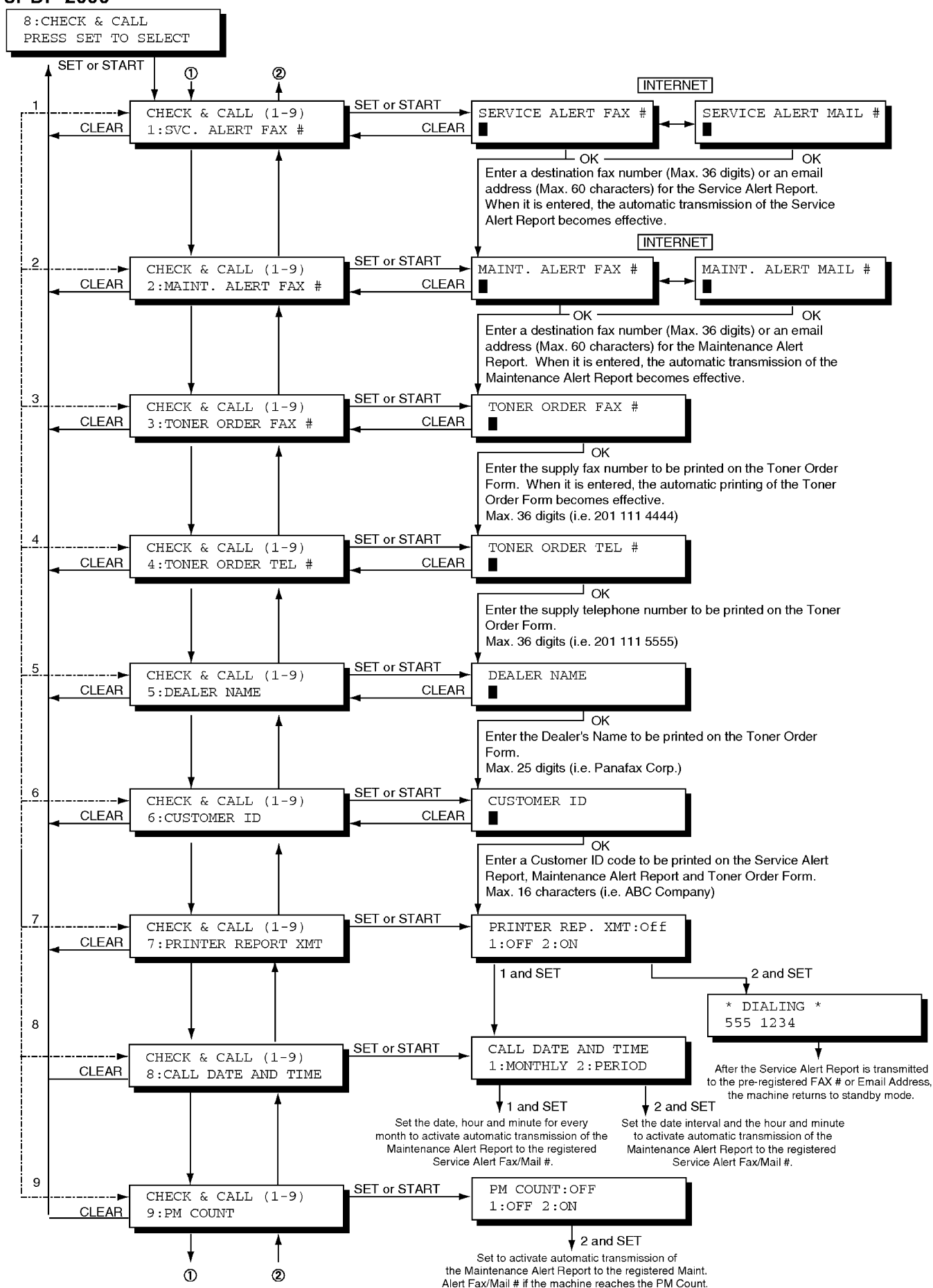
**Note:**

1. Transmission Report: o = Service Alert Report, x = Maintenance Alert Report
2. Condition: R = Receive Mode, C = Copy Mode, S = Standby Mode, T = Transmit Mode

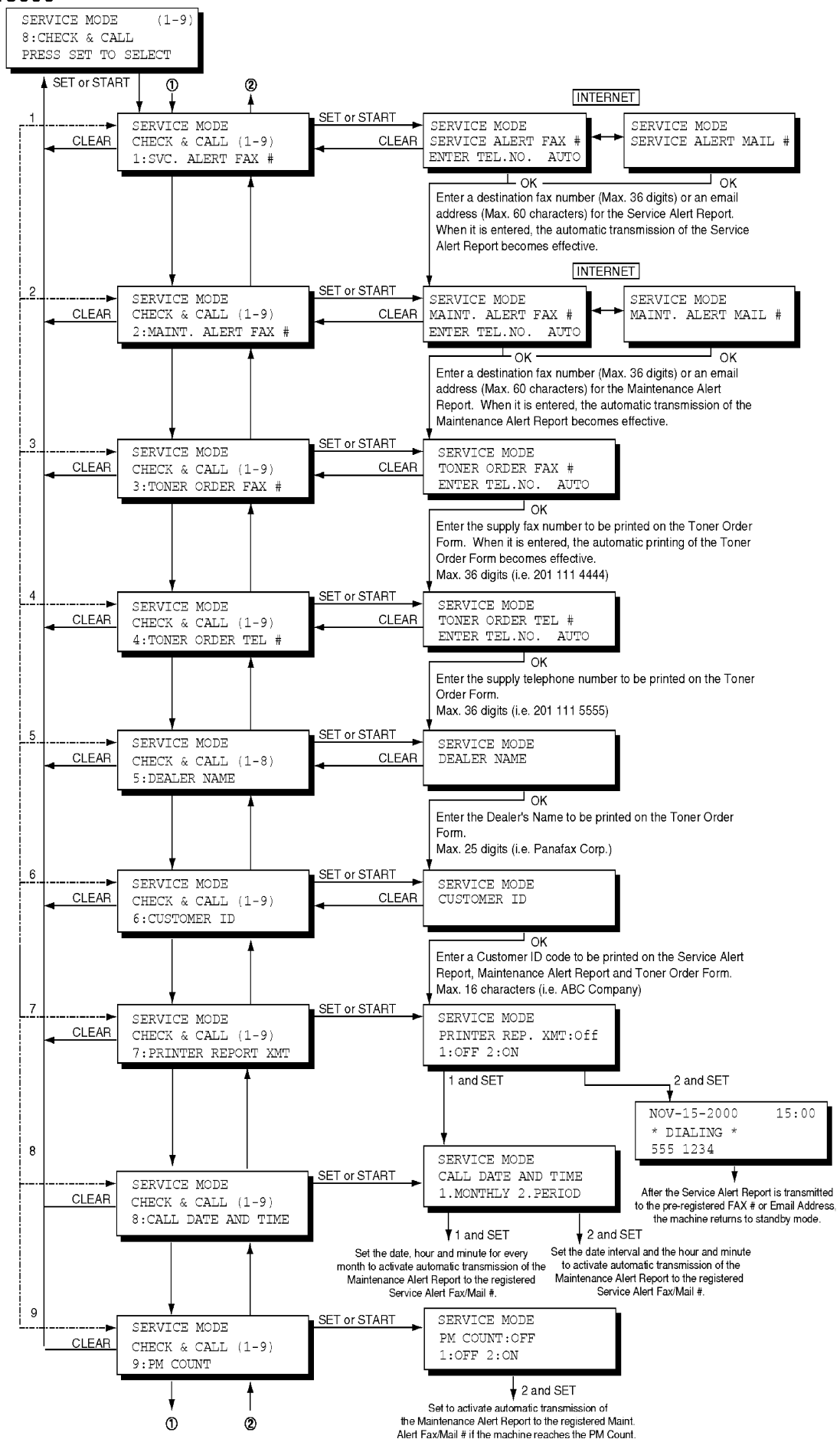


## 5.2.6.3. Setting Operation

For DP-2000



# For DP-2500/3000



## Note

### 1. Service Alert Report

To enable the automatic transmission of Service Alert Report, enter the destination fax telephone number or the email address in the "SERVICE ALERT (FAX # or MAIL #)" field. When a printer error occurs, the Service Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Service Alert Report.

### 2. Maintenance Alert Report

To enable the automatic transmission of Maintenance Alert Report, enter the destination fax telephone number or the email address in the "MAINT. ALERT (FAX # or MAIL #)" field. When a printer error occurs, the Maintenance Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Maintenance Alert Report.

### 3. Toner Order Form

To enable the automatic printout of the Toner Order Form, enter the destination fax telephone numbers in the "Toner Order FAX #" field. When a low toner error occurs, the Toner Order Form is printed automatically. A blank entry in this field, disables the automatic printout of the Toner Order Form.

### 4. SERVICE ALERT FAX #, this would be the fax telephone number for the Dealer's Service Department.

**SERVICE ALERT MAIL #**, this would be the email address for the Dealer's Service Department.

**MAINT. ALERT FAX #**, this could be the fax telephone number for the Dealer's Supply Sales Desk.

**MAINT. ALERT MAIL #**, this could be the email address for the Dealer's Supply Sales Desk.

**TONER ORDER FAX #**, this could be the fax telephone number for the Dealer's Supply Sales Desk.

**TONER ORDER TEL #**, this could be the voice telephone number for the Dealer's Supply Sales Desk.

**DEALER NAME**, this name is printed on the Toner Order Form.

**CUSTOMER ID**, to identify your customer, enter up to 16 characters user code in this field. This name will be printed on the Service Alert Report, Maintenance Alert Report and Toner Order Form.

## 5.2.6.4. SERVICE ALERT REPORT FORMAT

```

***** DATE NOV-15-2000 ***** TIME 12:00 *****

> SERVICE ALERT REPORT <
*****

LAST PRINT ERROR : NOV-15-2000 18:30 E03-20 41 00-00000835

(1) CUSTOMER ID : ABC COMPANY
(2) FIRMWARE VERSION
    HOST : DP-2500 AAV11000PU
    CONTROL PANEL : 10300
    PRINTER : 400046

(3) COUNTER INFORMATION:

F7-02
TOTAL COUNT          PM CYCLE      CURRENT
PM COUNT              (150000)      000835
SCANNER PM COUNT      (240000)      000401
ADF/iADF PM COUNT     (-----)      000326
OPC DRUM COUNT        30000         000835
PROCESS UNIT COUNT    120000        000835
PAPER TRANSPORT COUNT (See Note)
ADU COUNT              (See Note)
DUAL-PATH COUNT        (See Note)

F7-03
SHEET BYPASS COUNT   : 000249
1st PAPER TRAY COUNT : 000006
2nd PAPER TRAY COUNT : 000391
3rd PAPER TRAY COUNT : 000000
4th PAPER TRAY COUNT : 000000

F7-04
ADF/iADF COUNT       : 000326
ADF/iADF READ COUNT  : 000320
(4) SCANNER COUNT    : 000401
SCANNER READ COUNT   : 000198

F7-05
COPY PRINT COUNT     : 000575
COPY SCAN COUNT      : 000065

F7-06
PC PRINT COUNT       : 000000
PC SCAN COUNT        : 000000

F7-08
FAX TRANSMIT COUNT   : 000240
FAX RECEIVE COUNT    : 000082
FAX PRINT COUNT      : 000077

PRINT ERROR:
NO. DATE & TIME      ERROR CODE ERROR COUNT | NO. DATE & TIME      ERROR CODE ERROR COUNT
-----
01 NOV-15-2000 18:30 E03-20 41 00-00000835 | 16 NOV-05-2000 18:30 E04-10 30 00-00000830
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
"                                           | "
15 NOV-05-2000 12:30 J02          00-00000155 | 30 NOV-04-2000 11:30 J71          02-00000298

                                           -LOGO PANASONIC -
***** -CHARACTER ID - ***** -31415926535897932384-*****

```

### Explanation of Contents

- (1) Customer ID
- (2) Firmware Version
- (3) Counter Information
- (4) Print Error

Last 30 records (Latest on top)

### Note:

Available with Host Firmware version 2.xxxx or higher.

## 5.2.6.5. MAINTENANCE ALERT REPORT FORMAT

```
***** DATE NOV-15-2000 ***** TIME 12:00 *****

*****
> MAINTENANCE ALERT REPORT <
*****

LAST PRINT ERROR : MACHINE IS RUNNING OUT OF TONER (1)

CUSTOMER ID      : ABC COMPANY (2)

FIRMWARE VERSION (3)
  HOST           : DP-2500  AAV11000PU
  CONTROL PANEL  : 10300
  PRINTER        : 400046

TRANSMIT COUNTER : 000244 (4)
RECEIVE COUNTER  : 000082
COPY COUNTER     : 000000
PRINT COUNTER    : 000000

                                     -LOGO PANASONIC -

***** -CHARACTER ID - ***** -31415926535897932384-*****
```

### Explanation of Contents

- |  |  |
|--|--|
| (1) Low Toner Message (Fixed)                        | "MACHINE IS RUNNING OUT OF TONER"              |
| (2) Customer ID                                      | Up to 16 characters (User Identification Code) |
| (3) Firmware Version                                 |  |
| (4) Transmission / Reception / Copy / Print Counters |  |

\*\*\*\*\*  
> TONER CARTRIDGE ORDER FORM <  
\*\*\*\*\*

\*\*\*\* The toner supply in your machine is running low \*\*\*\* (1)  
To order a replacement Cartridge from your Authorized Dealer

Panasonic Corp. (2)

by Phone: 1 201 111 5555 (3)

by Fax: 1 201 111 4444 (4)

Thank you for your order.

Customer Name and Address

=====

Ship to: \_\_\_\_\_ Bill to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Attention: \_\_\_\_\_ Attention: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Customer ID: ABC COMPANY (5) P.O. No.(if required): \_\_\_\_\_

Toner Cartridge: DQ-TU18B (6) Serial No.: \_\_\_\_\_

Quantity Required:

\_\_\_\_\_

Print your name and title

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Signature & Date

## Explanation of Contents

(1) Low Toner Message (Fixed)

(2) Dealer Name

(3) Toner Order Tel #

(4) Toner Order Fax #

(5) Customer ID

(6) Toner Cartridge No.

"The toner supply in your machine is running low"

Up to 25 digits

Up to 36 digits

Up to 36 digits

Up to 16 characters (User Identification Code)

DQ-TU18B

## 5.2.7. Service Mode 9 (System Maintenance)

### 5.2.7.1. Overview

This Service Mode is used to maintain and/or update the firmware of the machine. Use the following procedure for System Maintenance.

Service Mode 9 for DP-2000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-4) ENTER NO. OR V Δ
3	Press "MONITOR" four times, then press "**".	SERVICE MODE ENTER NO. OR V Δ
4	Press "9". Use "V" or "Δ" to scroll to the desired maintenance task.	SYSTEM MAINT. (1-8) 1:FIRMWARE UPDATE
5	Press "START" to view the current firmware, and press "START" again to update it. To perform other maintenance task, enter a No. or use "V" or "Δ" to scroll to the desired task. Ex: Enter "2".	SYSTEM MAINT. (1-8) 2:FIRMWARE BACKUP
6	Press "START" and "SET".	FIRMWARE BACKUP * IN PROGRESS *
7	After the backup is completed, repeat step 5 through 6 to request another operation.	SERVICE MODE ENTER NO. OR V Δ
8	Press "STOP" to return to standby.	NOV-15-2000 15:00 00%

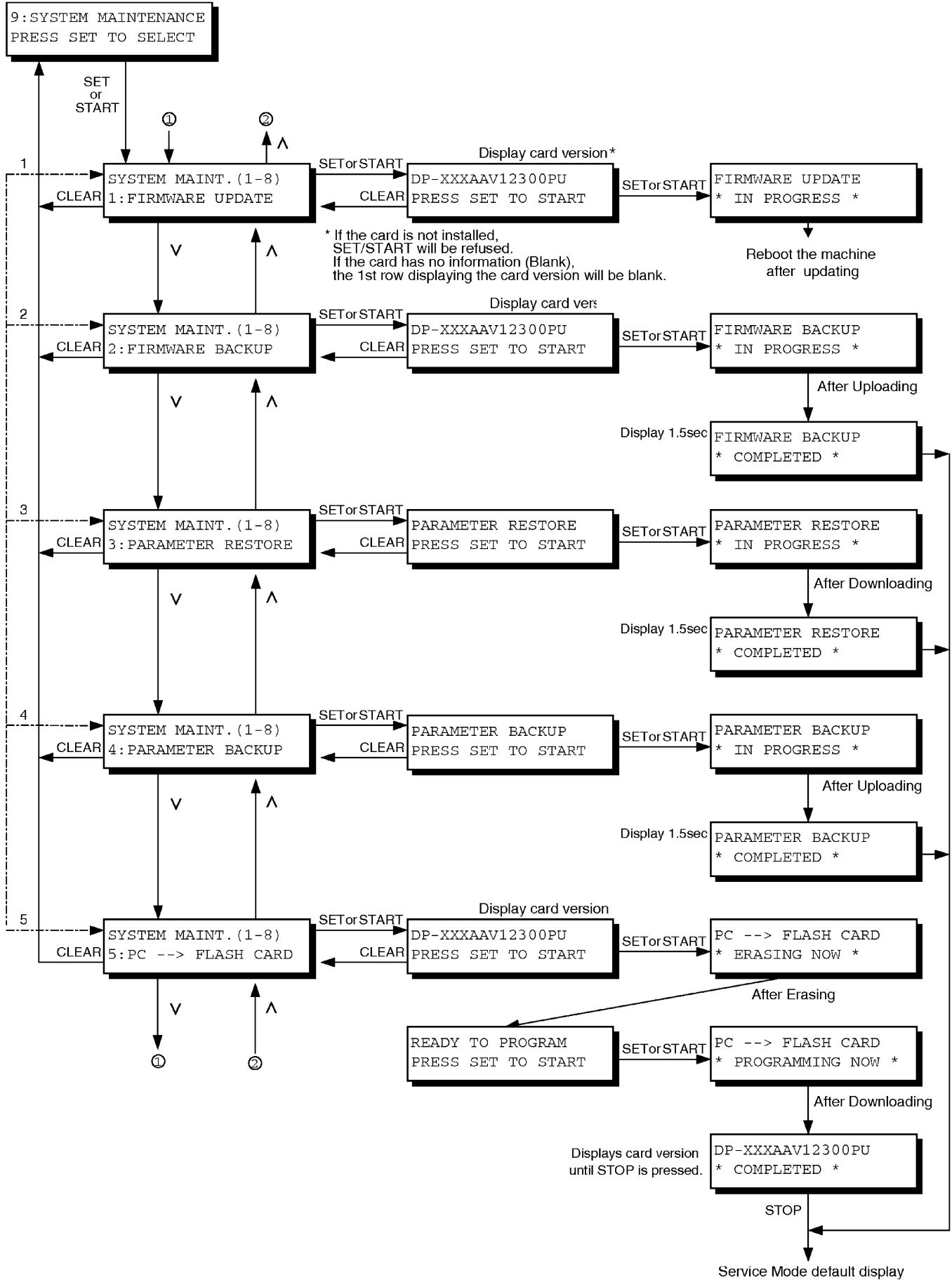
Service Mode 9 for DP-2500/3000		
Step	Operation or Unit Condition	LCD Display
1	Standby	NOV-15-2000 15:00 00% READY TO FAX
2	Press "FUNCTION".	SELECT A FUNCTION
3	Press "MONITOR" four times, then press "**".	SERVICE MODE (1-9) ENTER NO.
4	Press "9". Use the ORIGINAL SIZE keys to scroll to the desired maintenance task. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5	SERVICE MODE SYSTEM MAINT. (1-8) 1:FIRMWARE UPDATE
5	Press "START" to view the current firmware, and press "START" again to update it. To perform other maintenance task, enter a No. or use the ORIGINAL SIZE keys to scroll to the desired task. For USA  LETTER and  INVOICE For Other Countries  A4 and  A5 Ex: Enter "2".	SERVICE MODE SYSTEM MAINT. (1-8) 2:FIRMWARE BACKUP
6	Press "START" and "SET".	FIRMWARE BACKUP * IN PROGRESS *
7	After the backup is completed, repeat step 5 through 6 to request another operation.	SERVICE MODE (1-9) ENTER NO.
8	Press "STOP" to return to standby.	NOV-15-2000 15:00 00% READY TO FAX

System Maintenance Table

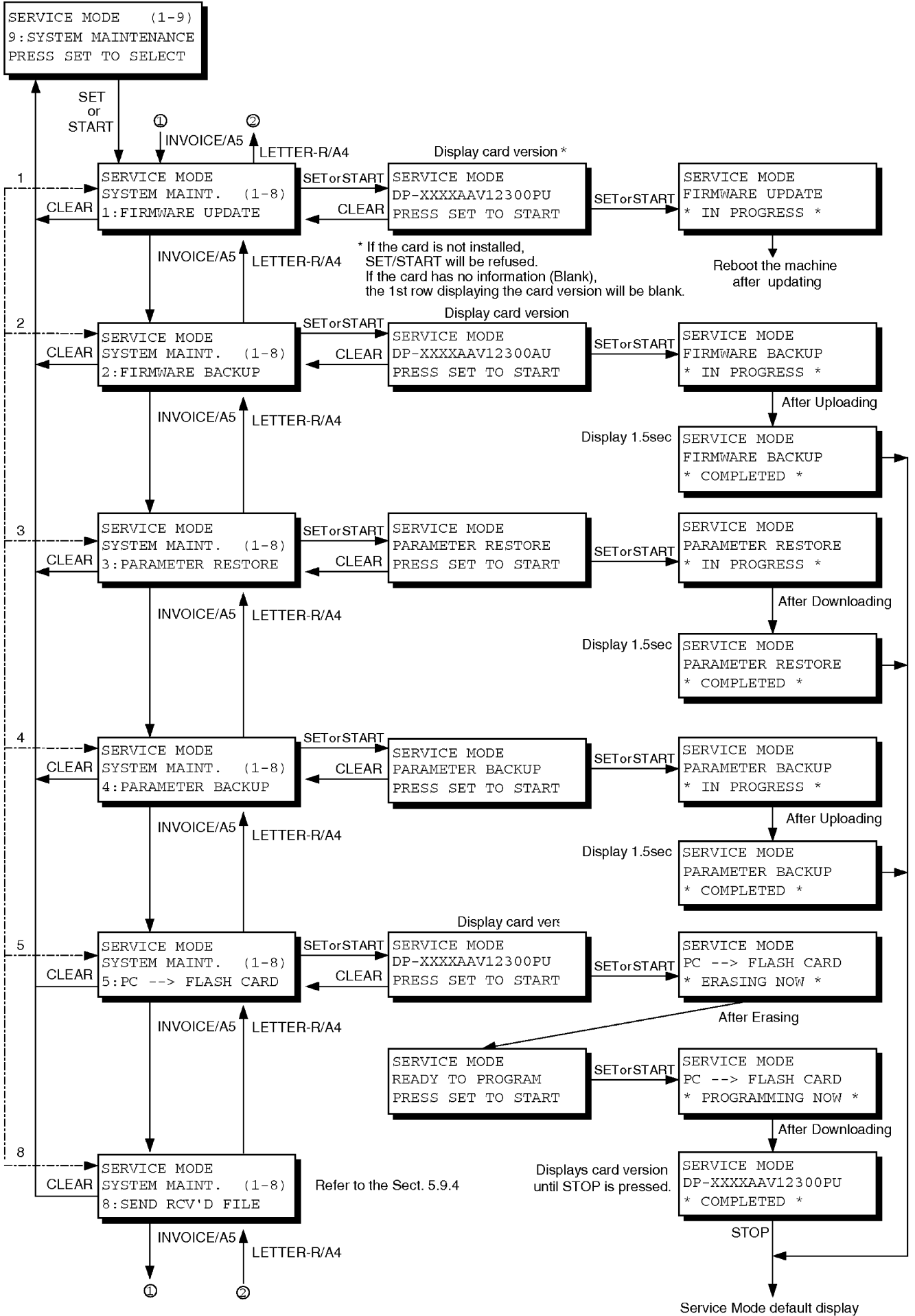
No.	Maintenance Mode	Description
1	FIRMWARE UPDATE	Updates the firmware in the machine with the Master Firmware Card. After the firmware is updated, the machine reboots and returns to standby
2	FIRMWARE BACKUP	Creates a Backup Card of the machine's firmware. (A 4 MB or higher Flash Memory Card is required)
3	PARAMETER RESTORE	Restores the parameters from the Backup Card into the machine.
4	PARAMETER BACKUP	Creates a Backup Card of the machine's parameters. (A 1 MB or higher Flash Memory Card is required)
5	PC → FLASH CARD	Creates a Master Firmware Card using the Firmware Update Kit. (A 2 MB or higher Flash Memory Card is required)
8	SEND RECEIVED FILE	Transfers documents from memory to another fax machine during a fatal printer error.



### 5.2.7.2. Operation For DP-2000



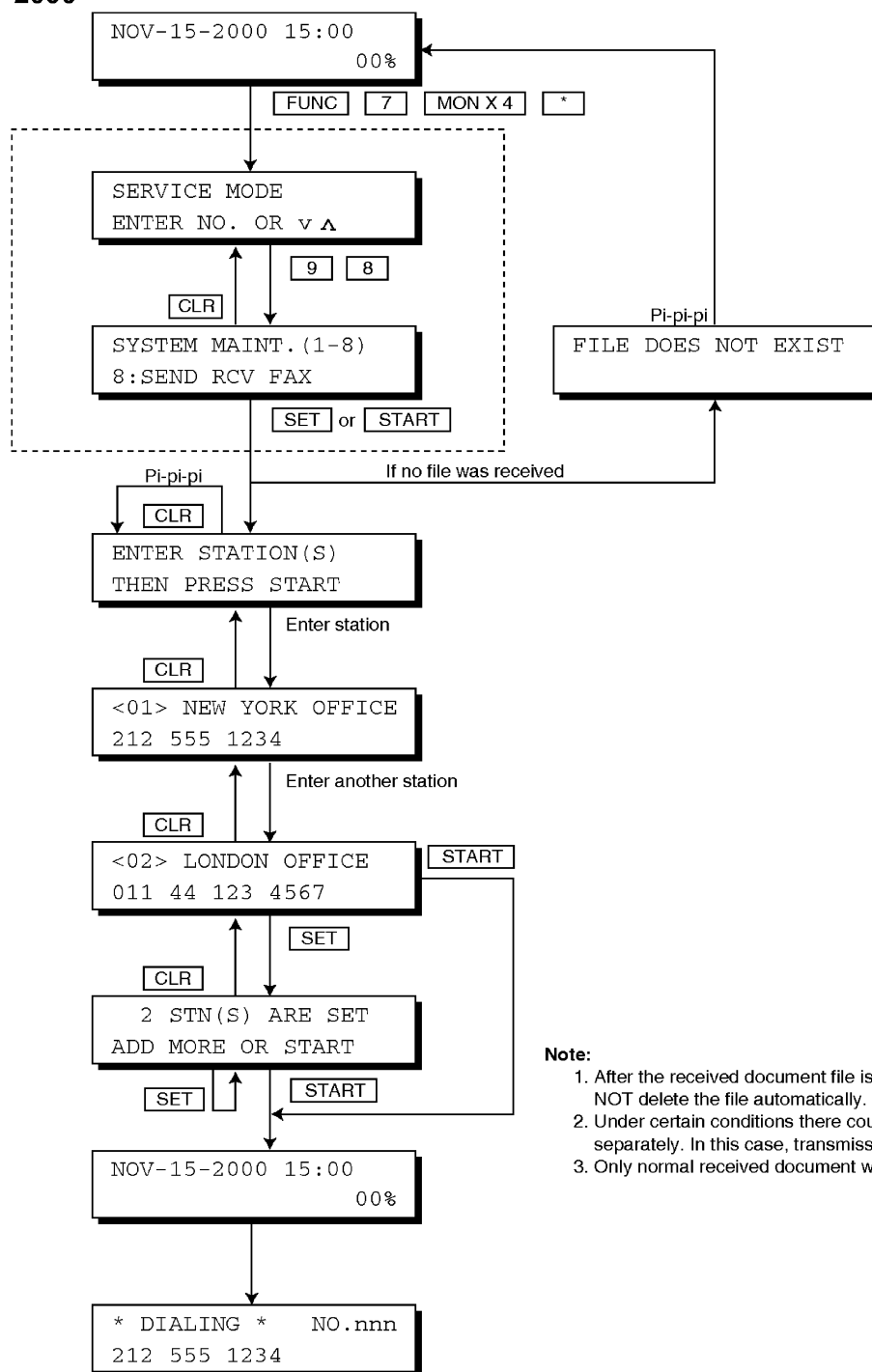
### For DP-2500/3000



### 5.2.7.3. Send Received File

This function is the relief mode which makes it possible to retrieve memory received documents during a fatal printer error by transferring the documents to another fax machine.

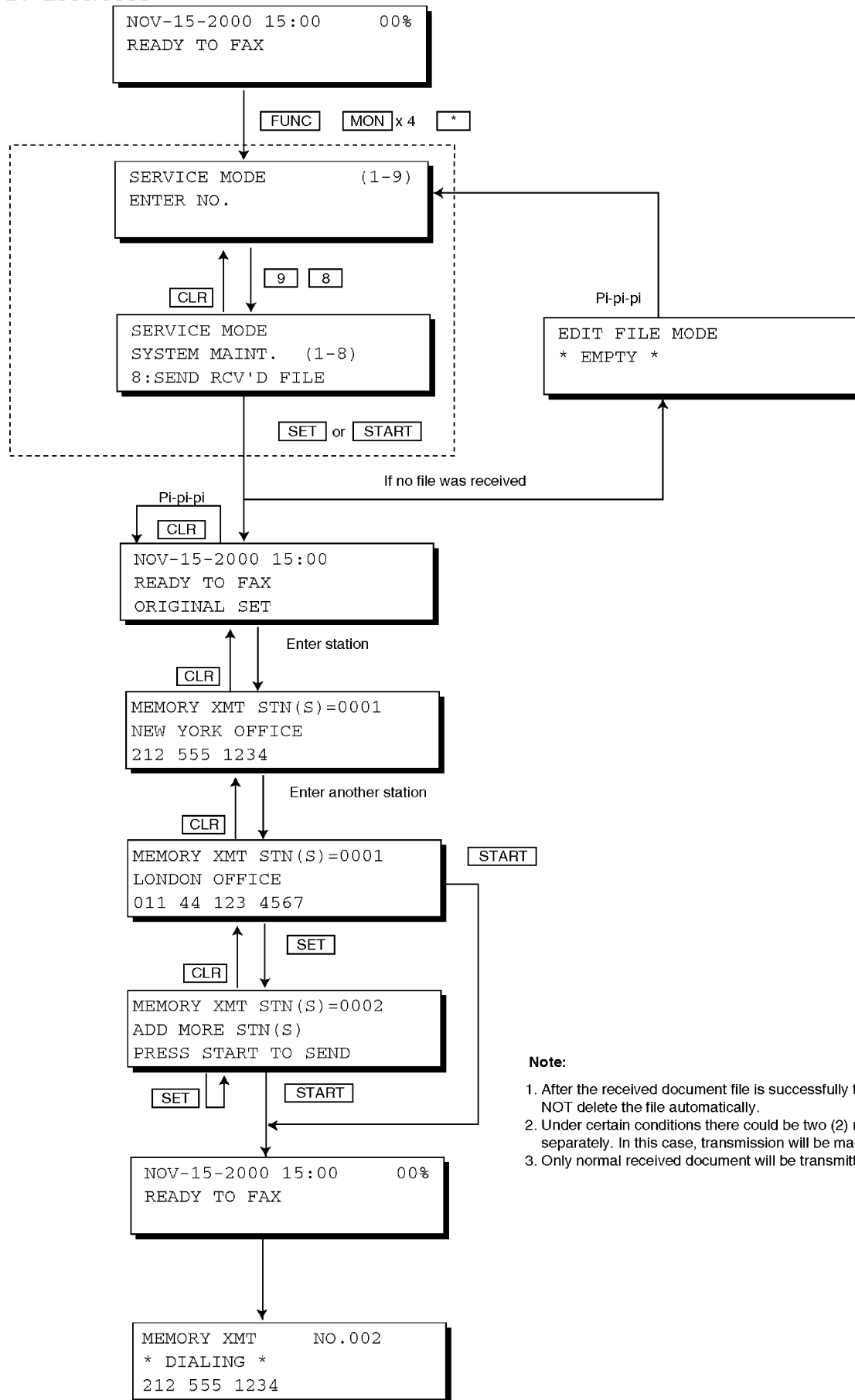
For DP-2000



**Note:**

1. After the received document file is successfully transmitted, unit will NOT delete the file automatically.
2. Under certain conditions there could be two (2) received files stored separately. In this case, transmission will be made separately.
3. Only normal received document will be transmitted.

## For DP-2500/3000



### Note:

1. After the received document file is successfully transmitted, unit will NOT delete the file automatically.
2. Under certain conditions there could be two (2) received files stored separately. In this case, transmission will be made separately.
3. Only normal received document will be transmitted.

## 6 System Description

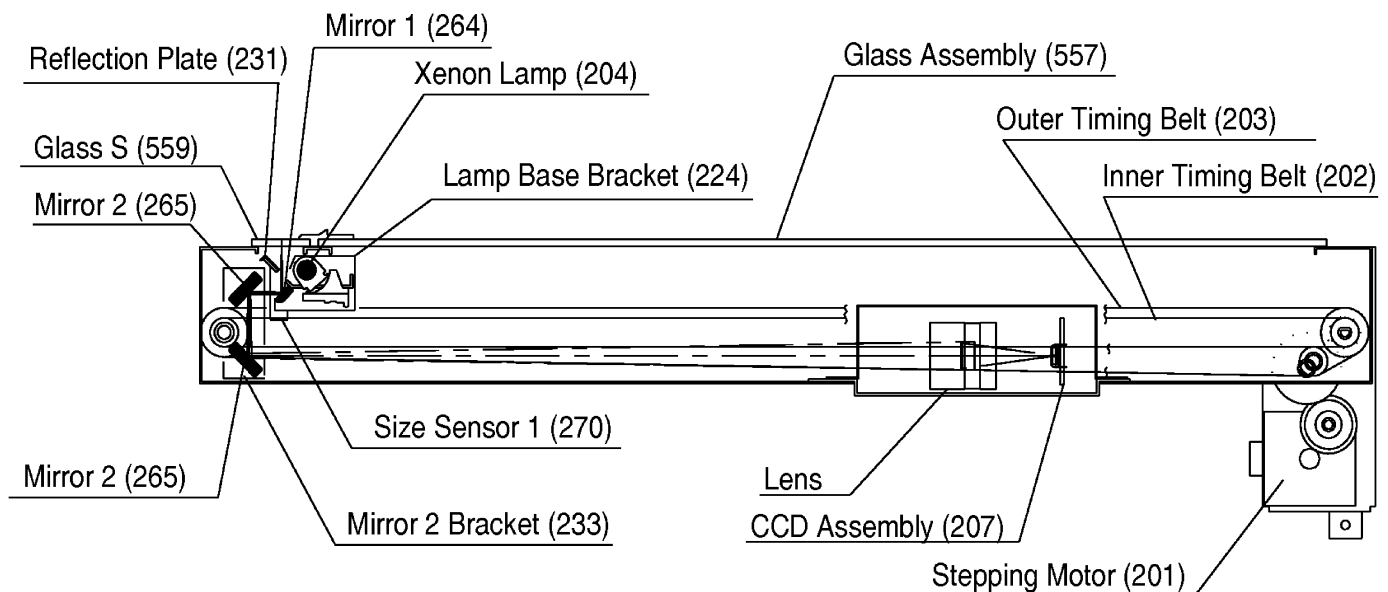
### 6.1. Mechanical Operation

#### 6.1.1. Scanning Mechanism (Flatbed)

##### 1. Scanning Mechanism

The Scanning Mechanism consisting of Lens, CCD PCB Assy (207), Mirrors, Xenon Lamp (204), Lamp Base Bracket (224) and Mirror 2 Bracket (233), is used to scan originals.

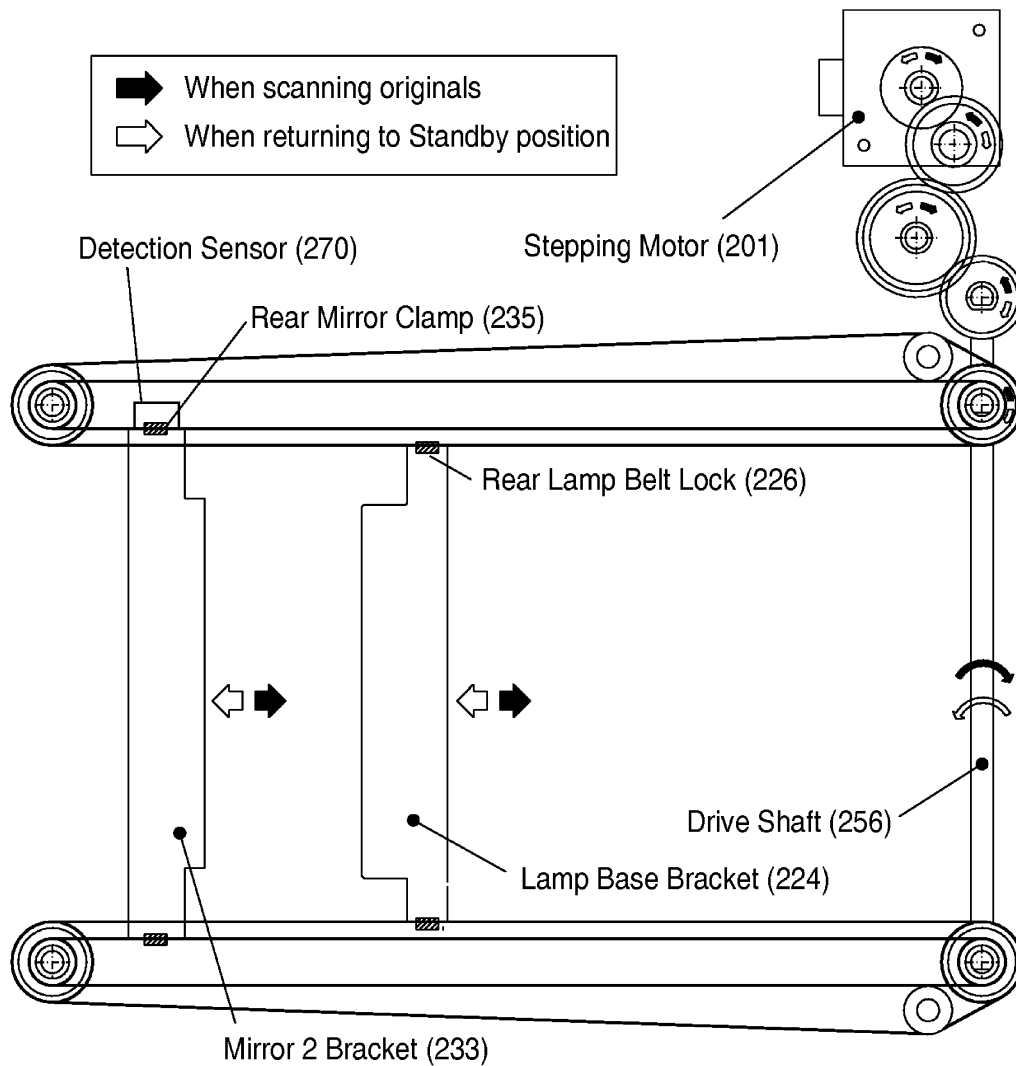
- The Mirror 1 (264) and Mirrors 2 (265) reflect image information, in the form of light, through the Lens.
- The Lens focuses the image information and passes it to the CCD.
- The CCD, mounted on the CCD PC Board, converts the image information into an electrical signal.
- The Inner and Outer Timing Belts (202 & 203) driven by the Stepping Motor (201), move the Scanner Assembly.



##### 2. Transmit Mechanism

- When ADF is used, originals are scanned on the Glass S (559). The Glass Assembly (557) is used when scanning on the Platen.
- The Scanning point is established by the Size Sensor 1 (270).
- Document size is automatically set by the Original Size Sensor (1045) or manually set when the Platen is used.
- The Transmit Mechanism starts feeding and scanning originals based on the above Document Size Setting.
- When scanning is completed, the Stepping Motor (201) stops rotating and the Lamp Base and Mirror 2 Brackets (224 & 233) return to the standby position.

During scanning, the Lamp Base Bracket (224) and Mirror 2 Bracket (233) move in the direction of the Black arrow and while returning to standby position, it moves in the direction of the White arrow as shown in the illustration below. The location of these two brackets are established by the Size Sensor 1 (270) and the scanning length is established by the setting on the Touch Panel. The following illustrates the Drive system.



## **6.2. Automatic Document Feeder**

The ADF (Automatic Document Feeder) automatically feeds paper into the unit, one original at a time. Its main features are:

1. Place originals Face-Up
2. Correct Order Stacking (Collation Mode)
3. Paper Feed Mechanism with Pre-Feed Roller
4. Oversized Feed 2 Roller for stable scanning

The following is the ADF Mechanical operation description.

### **6.2.1. Automatic Document Feeder**

#### **1. Initialization**

The ADF begins its operation with the Eject phase in order to feed and eject any documents stuck inside the ADF. The Clutch (1260) starts rotating and lowering the Original Stopper (1737) and the Pre-Feed Roller (1731), after a few seconds the Clutch reverses the rotation direction raising the Document Stopper to its standby position.

#### **2. Original Setting and Size Sensors**

Place the original(s) face up on the ADF until the leading edge stops against the Document Stopper. Adjust the Original Guides (1605 & 1606) to center the original on the ADF. The Document Stopper prevents originals from skewing and multiple feeding. The Original Detection Sensor (1045) detects the presence of documents on the ADF when the original(s) actuate Actuator 1 (1836) on the ADF Cover (1831). The two Sensors mounted on the SNS PC Board (19116) which is installed in the ADF Input Tray (1604) are actuated by the Original Guides, their position determines the original's width and the Original Length Sensor1 (1045) and Length Sensor2 (1045) detect the length of the original.

#### **3. Feeding and Separation**

When the Start button is pressed, the Clutch (1260) starts to rotate and lowers the Document Stopper, causing the Pre-Feed Roller (1731) to apply a downwards pressure against the originals. After a few seconds, the Clutch (1260) reverses the direction of rotation and the Pre-Feed Roller is raised upwards along with the Document Stopper. The upper original is fed to the ADF Roller (1728), and the Separation Roller (1740) with Torque Limiter Assembly (1743) prevents multiple feeding.

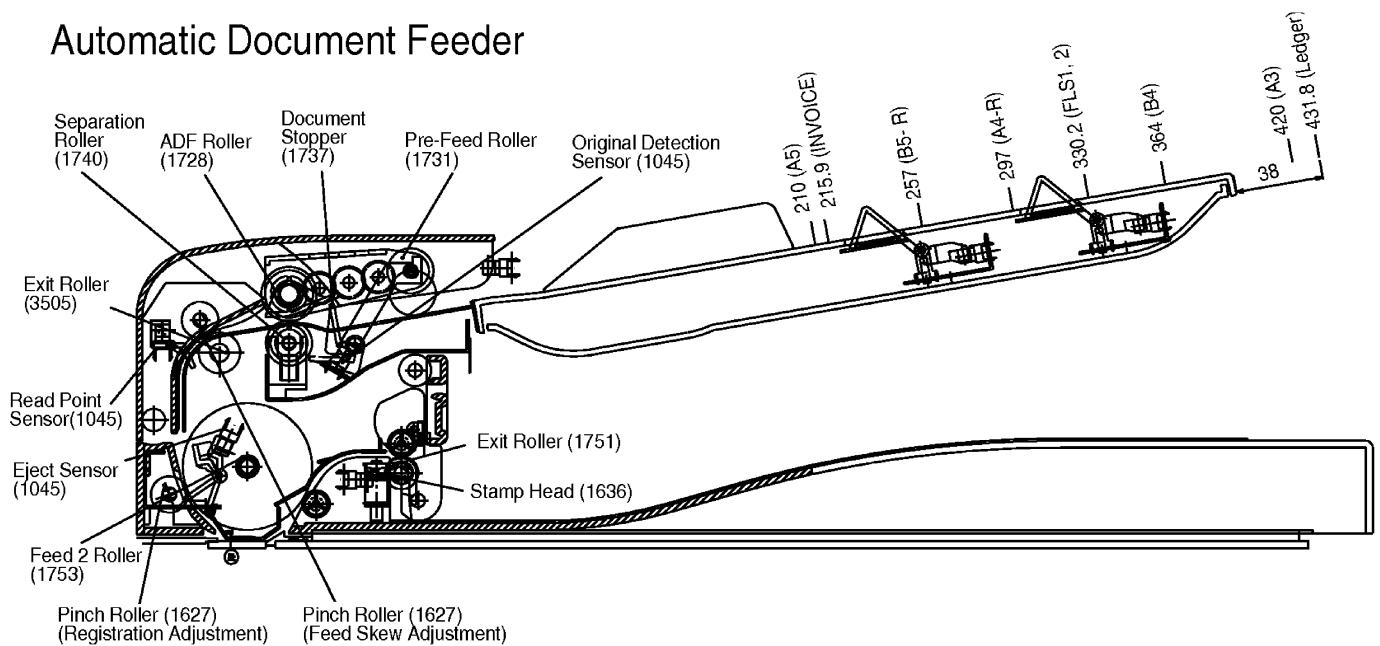
#### **4. Transmission and Ejection**

The original is fed into the Exit Roller (3505) and when the original actuates the Read Point Sensor (1045), the ADF Roller stops rotating. The Eject Sensor (1045) detects the scanning position and the Feed 2 Roller (1753) transports the original while scanning. The Stamp Head (1636) stamps an [X] mark on the front of the original after the document is successfully transmitted or stored. It consists of the Stamp Head (1636) and Stamp Solenoid (1635). The Exit Roller (1751) feeds and ejects the original out of the ADF. If there are additional originals on the ADF, the next one is fed into the feeder.

## 5. Final Operation

After ejecting the last original on the ADF, the Clutch reverses the direction of rotation raising the Document Stopper to its standby position.

### Automatic Document Feeder





## **6.2.2. Inverting Automatic Document Feeder**

The i-ADF automatically inverts two-sided original(s) for faxing or copying of the second side. This feature enables machines with a duplexer mounted to perform duplex copying.

An i-ADF (Inverting Automatic Document Feeder) functions in a similar manner as the ADF (Automatic Document Feeder), with the main exception being the document eject path after scanning. The following is the description of the main differences.

### **1. Switching from the ADF mode to the i-ADF mode**

After passing through the Read Point Sensor (1045), the path of the original is switched over by the Duplex 2 Guide (1857), to the Exit Roller (1751) or to the Inverting Feed Roller (1853). For single-side scanning, the Duplex 2 Guide is rotated clockwise by the Solenoid (1770) guiding the original to the Exit Roller. For double-side scanning, the Duplex 2 Guide is rotated counter-clockwise by the Solenoid (1770) guiding the original to the Inverting Feed Roller (1853). The Duplex 2 Guide moves only once, in the direction according to whether a single or double-side scanning is selected (Copier or Fax) before the Start button is pressed. It will remain in this position until a different operation is performed (i.e. if the last operation was 2-sided scanning, a single-side scanning is performed).

### **2. Scanning the Front and the Back Side of an Original**

The scanning of the Front and Back side of a 2-sided original is accomplished by means of the Duplex 2 Guide (1857) and Inverting 1 Guide (1858).

After the Front side of the original is scanned, the original is transported through the Duplex 2 Guide, through the Inverting 1 Guide (1858) that was rotated counter-clockwise by the Solenoid (1762) and is carried beyond the Inverting Feed Roller (1853) and upper Pinch Rollers (1838) into the Sub Tray (1617).

The original is carried for a specified period of time after the trailing edge of the original triggers the Duplex Eject Sensor (1045) and stops within 10 to 20 mm from exiting the rollers.

Then, the Inverting 1 Guide is rotated clockwise by the Solenoid and the reverse rotation of the ADF Motor (1801) pulls the original back around the Feed 2 Roller (1753) and proceeds to scan the Back side of the original.

After the Back side is scanned, the original is transported through the Duplex 2 Guide, through the Inverting 1 Guide and is carried beyond the Inverting Feed Roller and lower Pinch Rollers (1838) this time, into the Sub Tray, again stopping 10 to 20 mm from exiting the rollers.

### **3. Eject by Reverse Rotation**

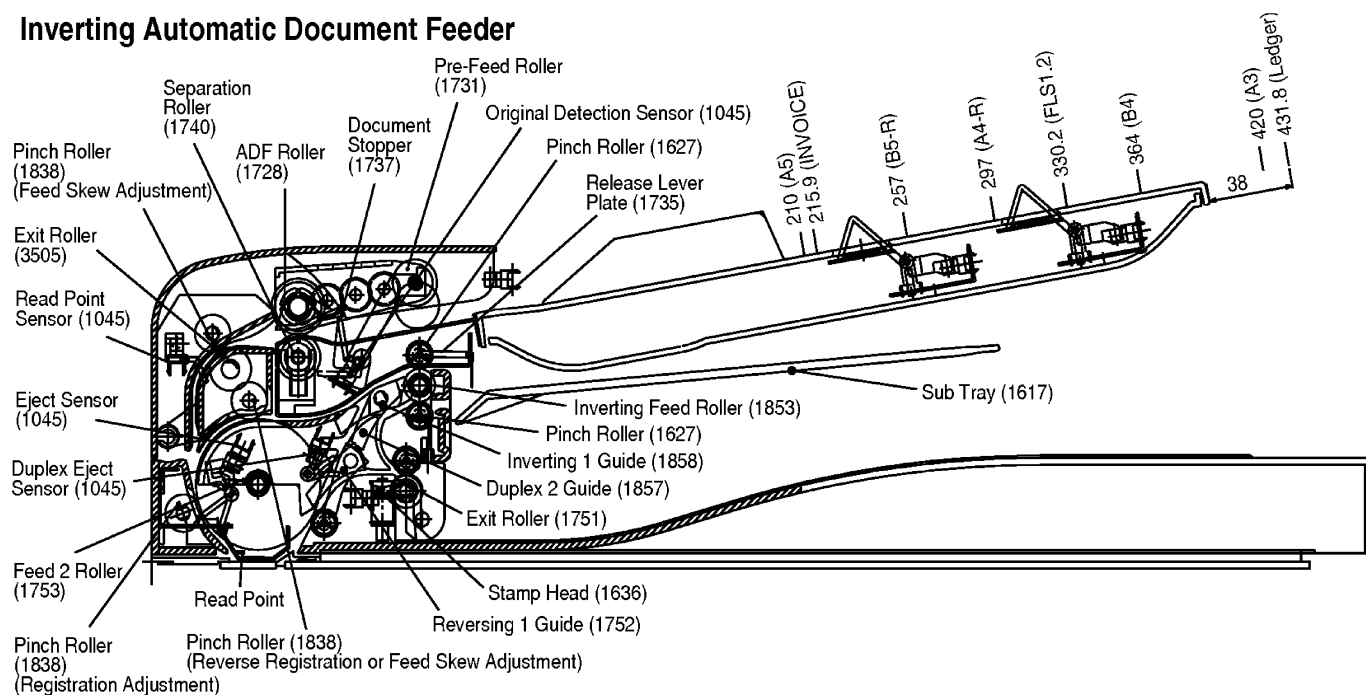
For the originals to stack properly, the above process repeats one more time. The Inverting 1 Guide is rotated clockwise by the Solenoid and the reverse rotation of the ADF Motor pulls the original back around the Feed 2 Roller, however, this time the original is routed to the Exit Roller (1751) and exits into the ADF Base (1633).

### **4. Sub Tray**

The Inverting ADF system includes a Sub Tray (1617), which supports the originals during the ejection mode of the double-side scanning operation.

The Release Lever Plate (1735) grasps the originals and prevents them from being ejected into the Sub Tray.

## Inverting Automatic Document Feeder

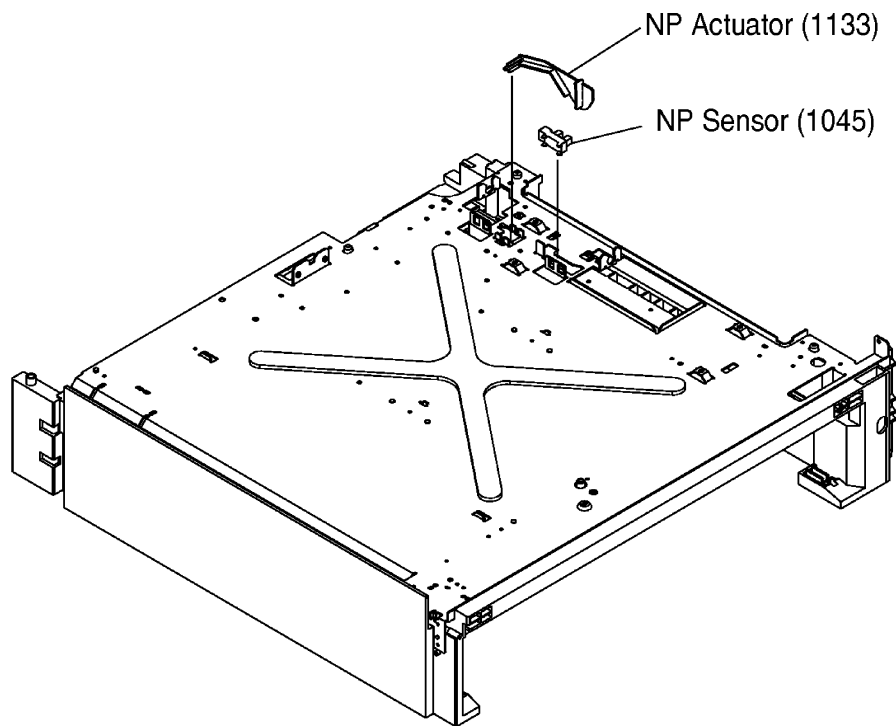


## 6.3. Receive Mechanism

### 6.3.1. Paper Feed Modules

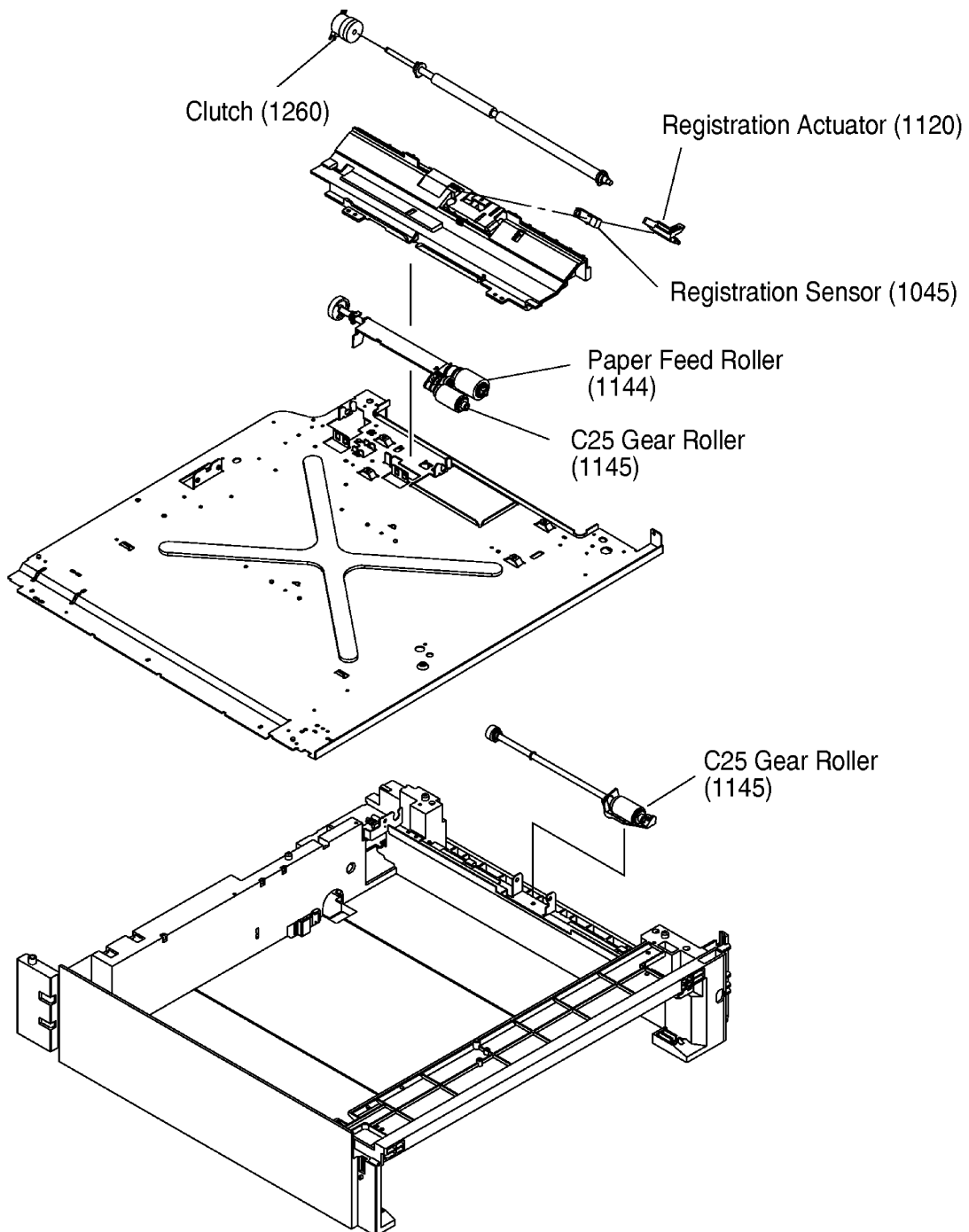
#### 1. Paper Feed Module No. 1 (Std), 2, 3 and 4

##### < NP Sensor Operation >



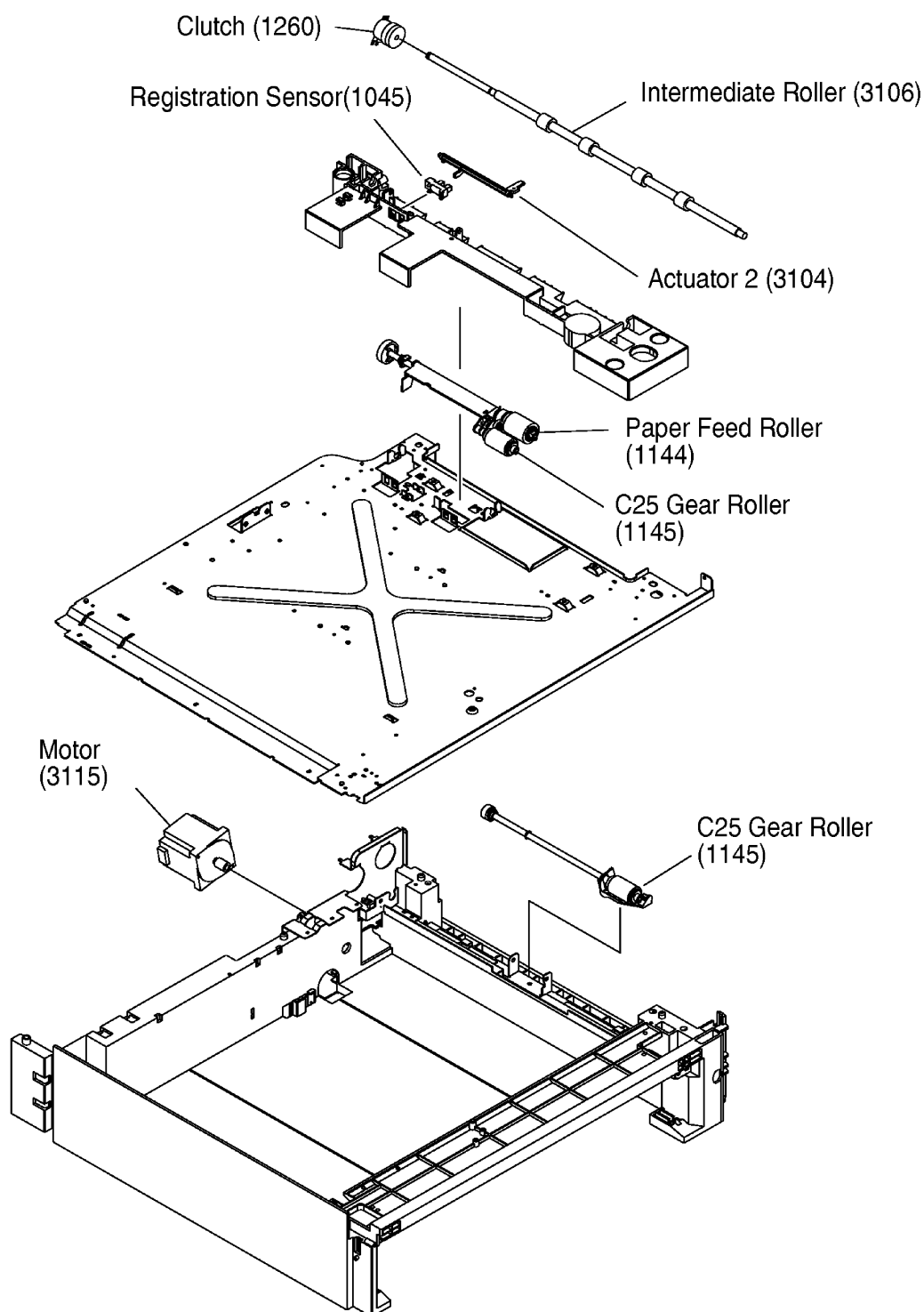
- a. The NP Actuators (1133) attached to the Paper Feed Blocks No.1, 2, 3 and 4 determine if there is paper in the paper tray.
- b. The paper in the paper tray lifts up the NP Actuator, allowing the light from the LED to actuate the NP Sensor (1045).

## < Paper Feed Module Operation >



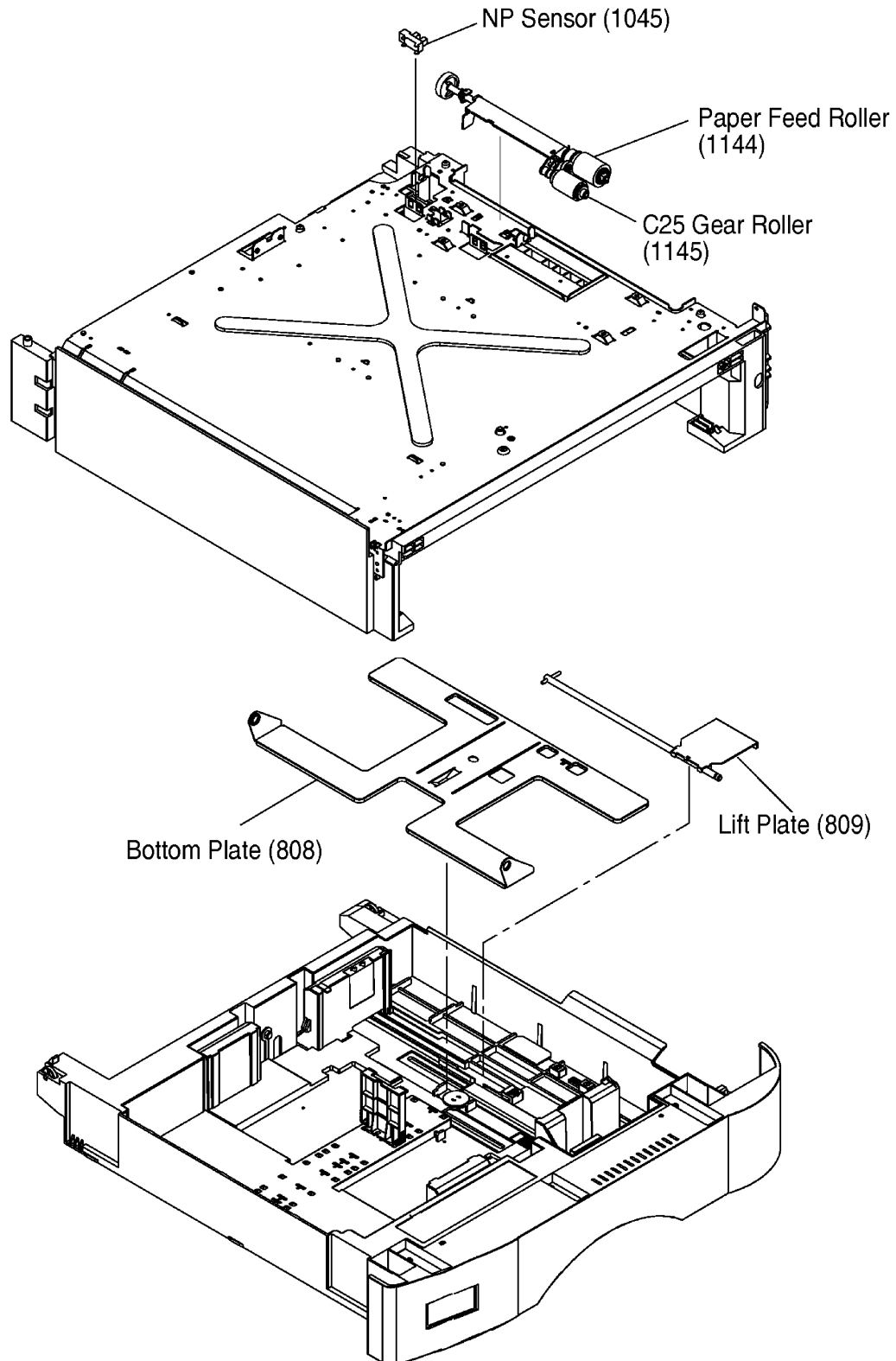
- When the printing operation begins, the Printer Motor (901) starts driving the Gears.
- The Clutch (1260) is energized for a specified period of time and turns ON. This activates the Paper Feed Roller (1144). The paper is separated into individual sheets by the C25 Gear Roller (1145) and is transported.
- The paper is transported to the Registration Roller (1121), activating the Registration Sensor (1045). After a specified period of time, the Clutch (1260) is turned ON and the Registration Roller (1121) and the Registration Pinch Roller start rotating. The paper is transported to the OPC drum area.
- The paper passes through the Read Point Sensor (1045) and after a specified period of time, the Clutch (1260) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

## < Paper Feed Module (Optional) Operation >



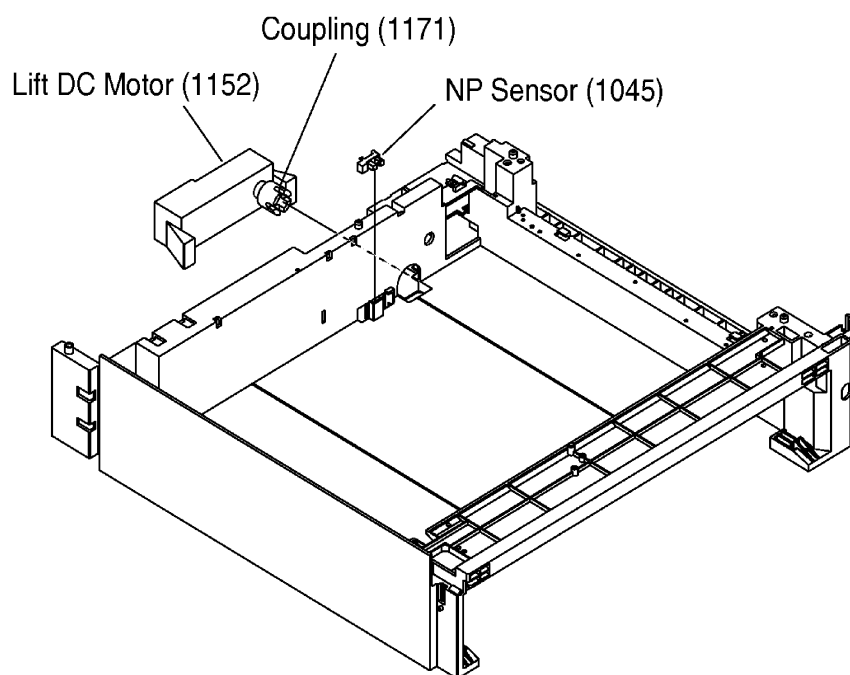
- When the printing operation begins, the Printer Motor (901) and the Motor (3115) start driving the Gears.
- The Clutch (1260) is energized for a specified period of time and turns ON. This activates the Paper Feed Roller (1144). The paper is separated into individual sheets by the C25 Gear Roller (1145) and transported by the Intermediate Roller (3106).
- The paper is transported to the Registration Roller (1121), activating the Registration Sensor (1045). After a specified period of time, the Clutch (1260) is turned ON and the Registration Roller (1121) starts rotating. The paper is transported to the OPC drum area.
- The paper passes through the Read Point Sensor (1045) and after a specified period of time, the Clutch (1260) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

### < Paper Feed Module Lift up Mechanism >



- When inserting the Paper Tray into the machine, the NP Sensor (1045) activates. At the same time, the Lift Plate (809) is combined with the coupling which drives the Lift Plate of the machine. The Lift Plate rotates, lifting the Bottom Plate (808) and the Recording Paper.
- Once the Bottom Plate and the Recording Paper are raised, the NP Sensor (1045) is turned ON. The Lift DC Motor (1152) stops rotating, maintaining the recording paper at the certain level.

**< Paper Feed Module Recording Paper Size Setting >**



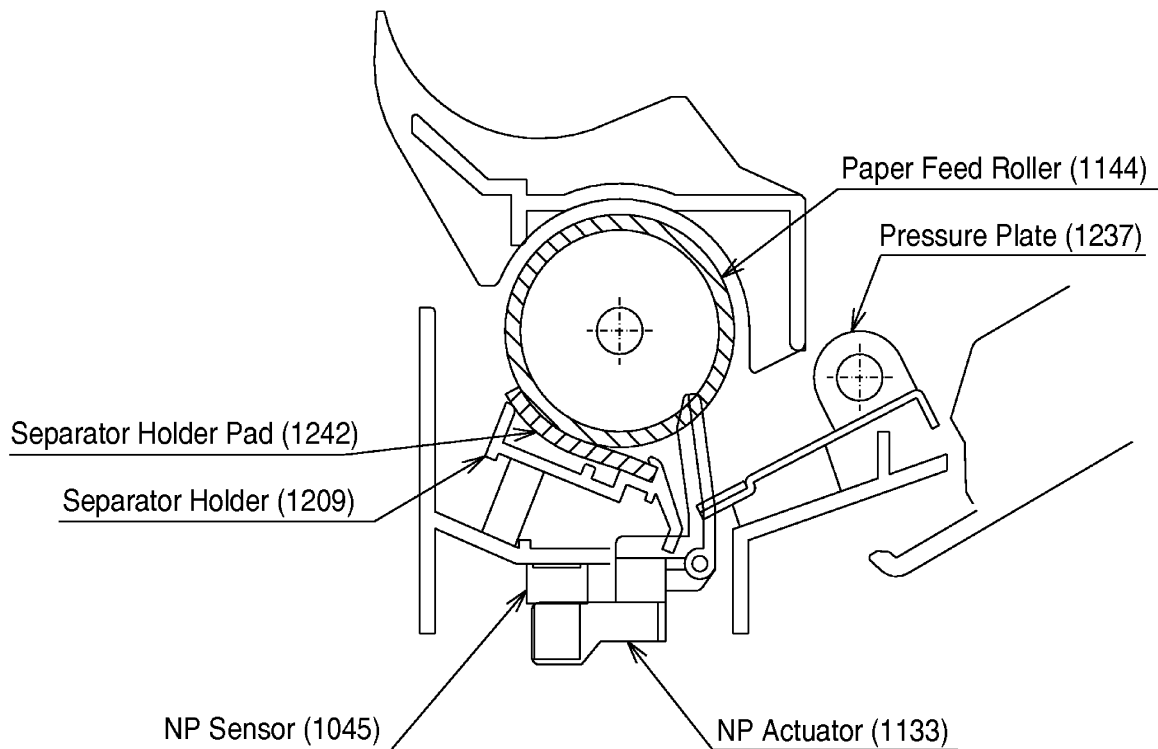
- a. The Recording Paper size in the Paper Feed Module is set on the Touch Panel.

## 2. Sheet Bypass

### < NP Sensor Operation >

- a. The NP Actuator attached to the Paper Feed Unit determines if there is paper in the paper tray.
- b. The paper in the paper tray lowers the NP Actuator and the NP Sensor (1045) actuates.

### < Sheet Bypass Operation >



- a. When the printing operation begins, the PRINT (Print Request Signal) turns On and the Printer Motor (901) starts driving the Gears.
- b. The Clutch (1260) is energized for a specified period of time and turns ON. This activates the Paper Feed Roller (1144). The paper is raised by the Pressure Plate (1237) and transported to the Separator Holder Pad (1242). The paper is separated into individual sheets by the Separator Holder (1209).
- c. The paper is transported to the Registration Roller (1121), activating the Registration Sensor (1045).
- d. After a specified period of time, the Clutch (1260) is turned ON and the Registration Roller (1121) and the Registration Pinch Roller start rotating. The paper is transported to the OPC drum area. After lowering the Pressure Plate (1237) during the specified period of time, the Clutch is turned OFF and the Paper Feed Roller (1144) stops rotating.
- e. After the trailing edge of the paper passes the Registration Sensor (1045) and after a specified period of time, the Clutch (1260) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

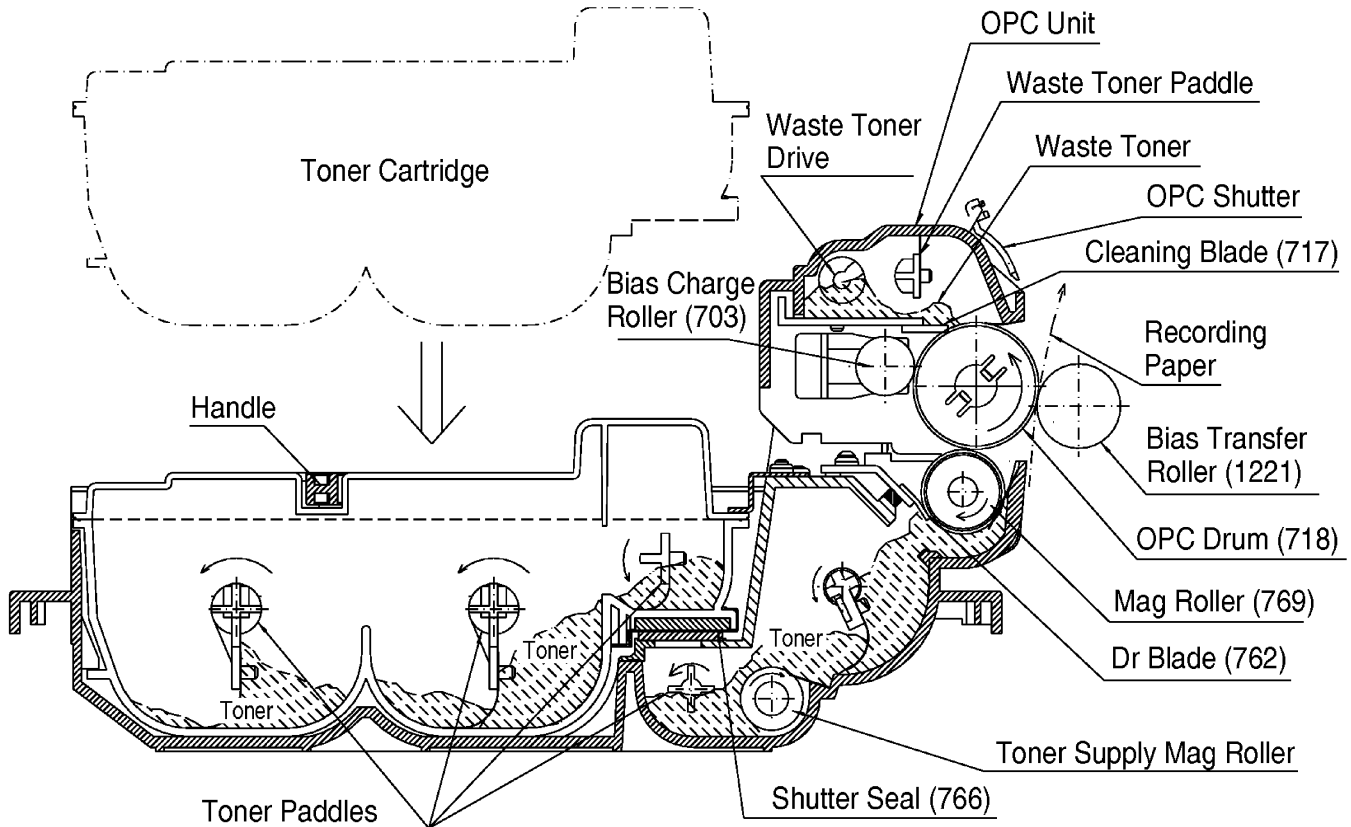


### 6.3.2. Printing Process Operation

The Printing Process Operation consists of Process Unit and Toner Cartridge with Toner supplied. The Toner Paddles in the Toner Cartridge attach to the Process Unit by means of gears, the Toner Cartridge Shutter opens and Toner is supplied to the Process Unit using gravity.

The Process Unit includes the Waste Toner Paddle and Mag Roller (769) that supplies Toner to the OPC Drum (718).

The Cleaning Blade (717) is attached to the OPC Unit. The Cleaning Blade scrapes the OPC Drum surface to remove the excess toner on the surface of the OPC Drum into the Waste Toner Chamber. The removed toner is moved into the Waste Toner Bottle by means of Waste Toner Paddle and Waste Toner Drive.



## Toner Cartridge

### Charge

In the dark, the Bias Charge Roller (703) applies a high, uniform negative charge to the surface of the OPC Drum. The surface potential is approximately -560 VDC and remains because the drum has a high electric resistance in the dark.

### Exposure

A portion of the laser beam is deflected to the timing sensor [Beam Detection (BD) Sensor], which controls the start timing of scanning on the OPC Drum. The CPU also uses the timing sensor to detect abnormal signals. The light beam from the laser diode is modulated by the digital signal and converted to parallel light waves by the collimator lens. The beam is then directed to the rotating polygon mirror, where it is reflected to the f-θ lens and then focused onto the OPC Drum surface. The laser beam moves across the surface of the OPC Drum in the scanning direction. Where the laser beam is applied, the negative charge on the drum dissipates, and where the laser is not applied, the negative charge remains. This action forms a latent, electrostatic image on the OPC Drum, corresponding to the original image.

**Development**

This development process uses a conventional method, where toner coats a Development Roller and transfers to the latent image on the OPC Drum. In the Toner Cartridge, the (mono-component) toner is negatively charged by the friction between the rotating Development Roller (Mag Roller) (769) and the Dr Blade (762). This combination and the rotation of the Mixing Blade transfers the toner from the reservoir and forms a brush effect on the Mag roller. Where the magnetic brush lightly touches the OPC Drum, the negatively charged toner is attracted to the latent image on the drum, forming a mirror image of the original on the drum. Any remaining toner is removed from the Mag Roller by the Dr Blade and is recycled back into the toner

reservoir. A bias voltage of approximately 1.65 kVACp-p at 1.7 kHz, riding on a -430 VDC bias is applied to the magnetic brush to achieve maximum print quality.

**Transfer and Separation**

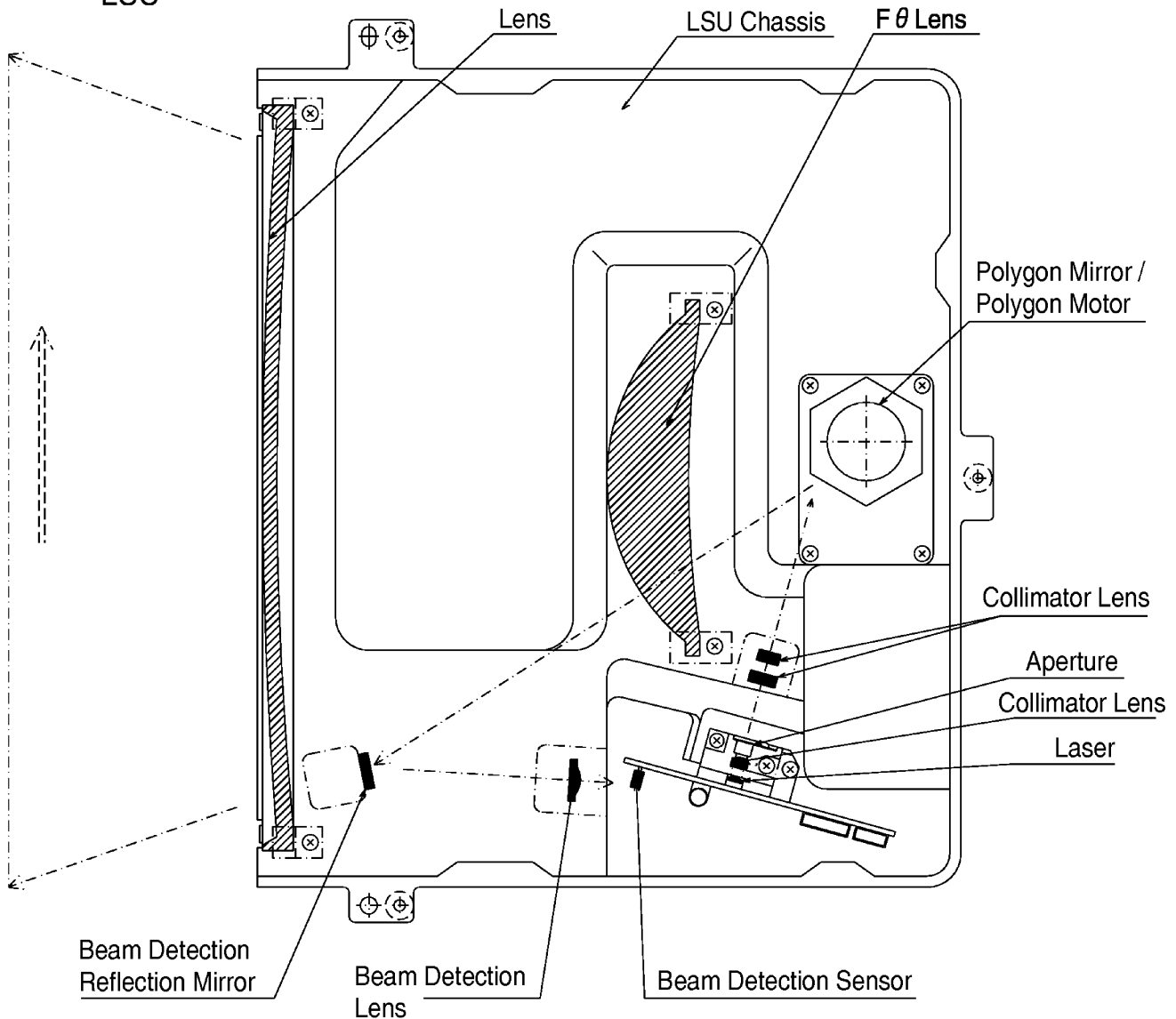
As the paper is fed between the OPC Drum and the Bias Transfer Roller (BTR) (1221), a positive charge of approximately +1600 VDC (+12  $\mu$ A steady current) is applied to the backside of the paper by the BTR. The toner particles are attracted away from the drum towards the surface of the paper. During cleaning, the BTR is charged to approximately -800 VDC to repel toner on the OPC Drum and prevent toner from being attracted to the BTR. After transfer has occurred, the paper passes over the Discharge Plate (1225) in the Transfer Guide (1220), reducing the difference of potential between the OPC Drum and the paper. The stiffness of the paper causes the paper to separate from the drum.

**Cleaning**

After transfer, some toner may remain on the surface of the OPC Drum. A Cleaning Blade (717) scrapes the OPC Drum surface, and the removed toner is moved into the Toner Waste Box, outside the Toner Cartridge.

### 6.3.3. Laser Unit

#### LSU



#### 1. Laser

This Laser uses the semiconductor laser. The beam power on the drum surface is approximately 0.25 mW.

#### 2. Collimator Lens

This lens converges and focuses the laser beam, converting it to parallel light.

#### 3. Aperture

This controls the size of the laser beam.

#### 4. Polygon Mirror and Polygon Motor

The polygon scanner consists of a 6-sided mirror, directly driven by a DC motor, revolving at 42,000 rpm. The laser beam is reflected against these mirrors and swept over the recorded width in the scanning direction.

#### 5. Beam Detection (BD) Lens and Beam Detection (BD) Sensor

The BD Lens receives the reflected light from the Polygon Mirror and redirects it into the BD Sensor, which converts the laser beam into electrical signals and sets the start timing for the scanning line.

#### 6. F-θ Lens

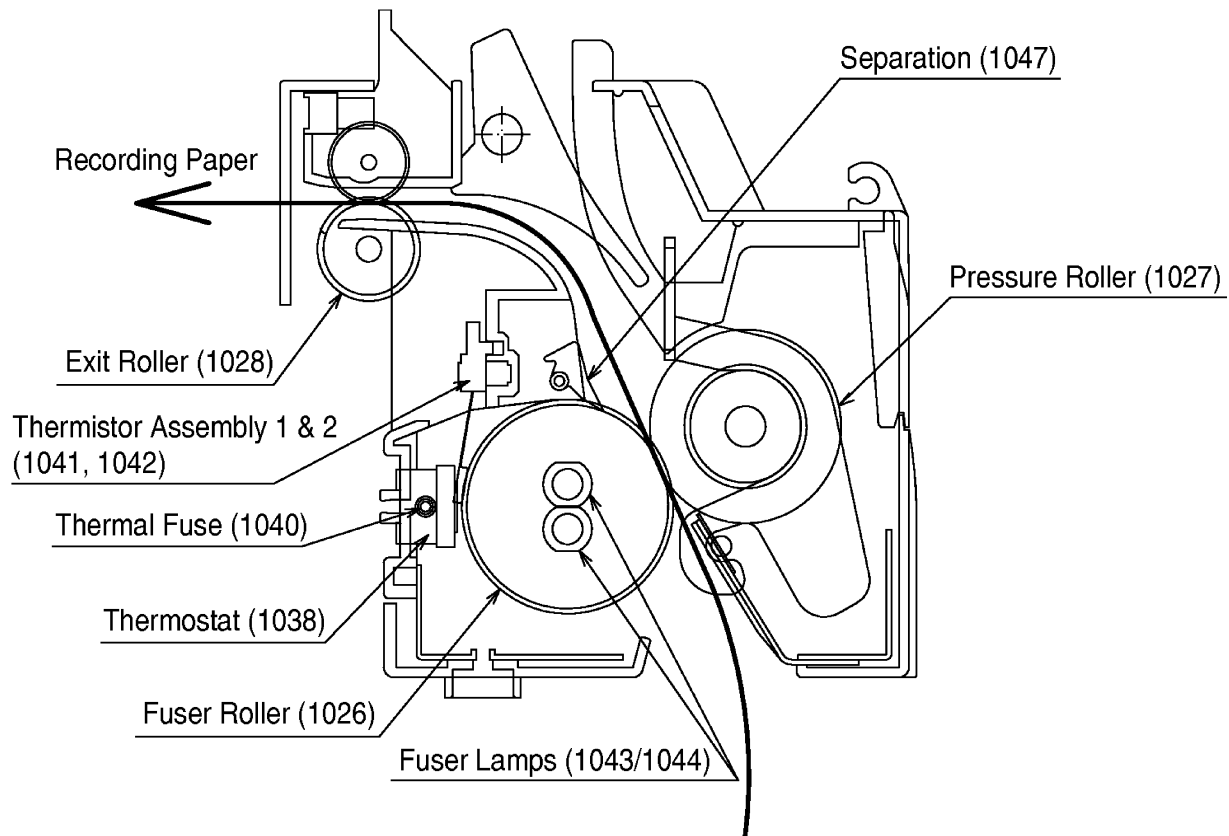
This amorphous plastic, molded lens is designed to provide parallel laser light across the surface of the drum, providing a constant scanning speed.

#### 7. Lens

This corrects the skew of each side on the Polygon Mirror.

#### 6.3.4. Fuser Operation

The paper passes through the Fuser Roller (1026) and is subjected to heat and pressure in the Fuser Unit. Pressure between the Fuser Roller (1026) and Pressure Roller (1027) fuses or bonds the toner into the paper.



##### **Fuser Roller (1026)**

A Teflon coated roller supplies heat for bonding the toner to the paper. The temperature of the surface is kept constant at approximately 190°C ( $\pm 10^\circ\text{C}$ ) (or 374°F).

##### **Fuser Lamps (1043, 1044)**

Located in the Fuser Roller (1026) are 2 Fuser Lamps (1043, 1044) that serve as the heat source for the Fuser Roller (1026).

##### **Thermistor Assembly 1 & 2 (1041, 1042)**

A heat sensitive resistor, in contact with the Fuser Roller (1026), monitors the surface temperature and keeps the temperature at the specified level by controlling the Fuser Lamps (1043, 1044).

##### **Thermostat (1038) and Thermal Fuse (1040)**

The Thermostat (1038) and the Thermal Fuse (1040) are installed in the Fuser Roller (1026), providing an extra overheat protection.

##### **Printer Motor (901)**

The Printer Motor (901) provides the driving force to the Fuser Roller (1026) through the Fuser Roller Gears.

##### **Pressure Roller (1027)**

This converted PFA tube Silicon Rubber Roller applies pressure to the Fuser Roller, assisting in bonding the toner to the paper.

**Separator (1047)**

Six Separators (1047) are installed in the Fuser Roller (1026). This prevents the recording paper from wrapping around the Fuser Roller (1026), causing a paper jam.

When the Fuser Unit does not reach the specified temperature within a certain period of time, an Error code is shown on the display, stopping the operation.

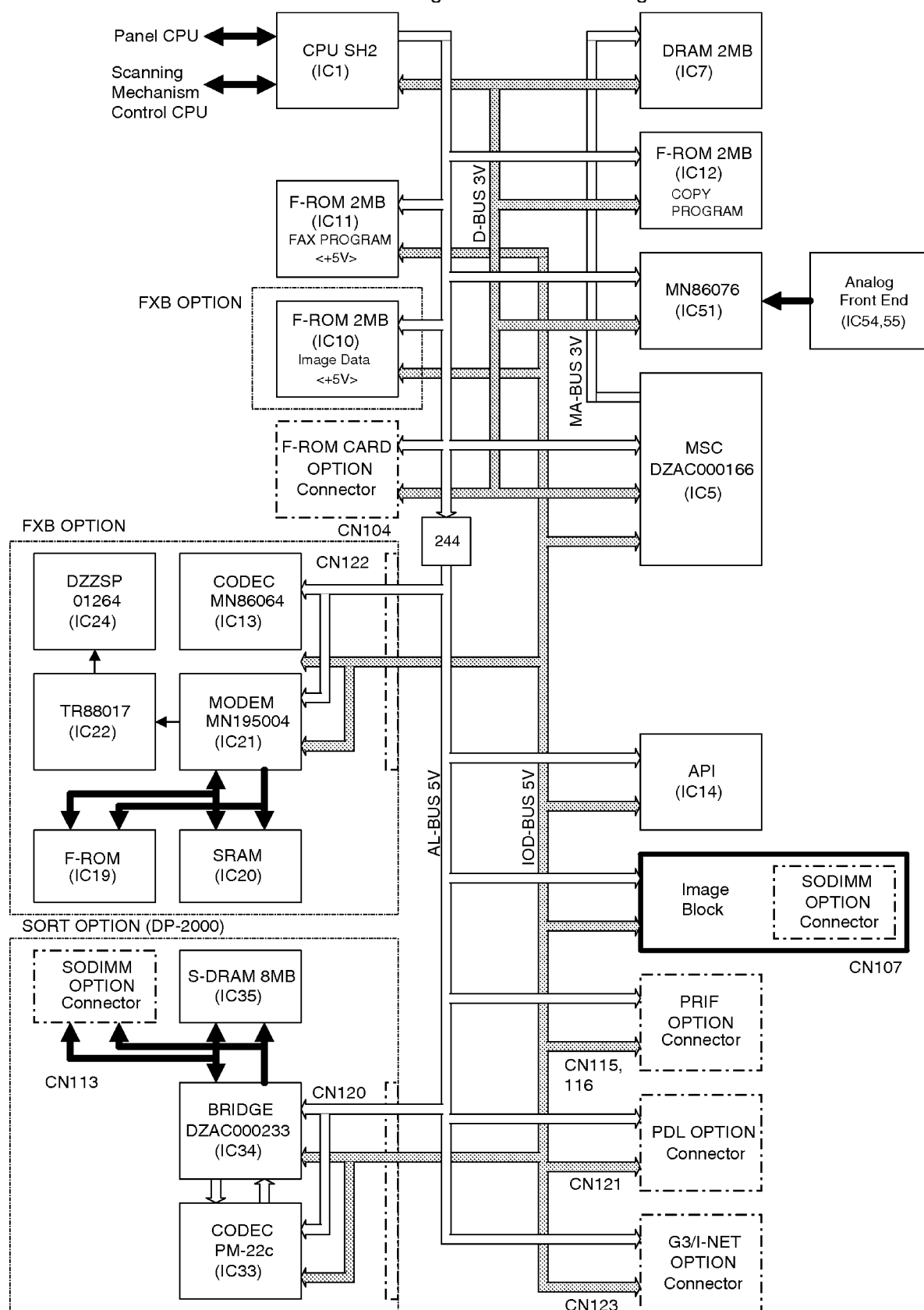
When the Thermistor Assembly (1041, 1042) is disconnected or the surface temperature of the Fuser Roller (1026) is out of limit, an Error code is shown on the display, stopping the operation.

#### 6.4.1. Fax Block Diagram



## 6.4.2. Fax System Control Circuit

The System Control Block consists of the following IC that control the general Fax functions.



## 1. System CPU

The System CPU (SH7041) is a 32-bit RISC (Reduced Instruction Set Computer) type of CPU and DMA Control, Serial Communication Port, Timer Control, Interrupt Control, DRAM Control, and I/O Port are integrated into 1 chip. Mask ROM (64k byte) is already installed and it controls the Monitor, High Speed managing Task and Boot Programming.

- **DMA Control**

It has a 4ch DMA Control and is used to transfer data between the following devices.

Communication CODEC (MN86064)  $\longleftrightarrow$  Image Data Memory (DRAM)

- **Serial Communication Port**

It has a 2ch Serial Communication Port and is used to interface the following devices.

CPU  $\longleftrightarrow$  Panel Unit (Panel CPU)

CPU  $\longleftrightarrow$  Sub CPU for scanning (uPD78058)

- **Timer Control**

It is used to program the standard timer.

- **Interrupt Control**

It controls receipt & transfer to CPU the interrupt from MSC, Modem, LSI, Option, etc.

- **DRAM Control**

It generates DRAM Control Signal and Refresh Control when the power is ON.

- **I/O Port**

It is used to control lines and reset control around LSI.

## 2. System Control Gate Array (MSC)

DZAC000166 (MSC) is a System Control Gate Array and provides the CPU peripheral function.

- **DMA Control**

It has a 4ch DMA Control and is used to transfer data between the following devices.

Image CODEC (MN86064)  $\longleftrightarrow$  Image Data Memory (DRAM)

Printer Interface  $\longleftrightarrow$  Image Data Memory (DRAM)

- **Interrupt Control**

It controls receipt & transfer to CPU the interrupt from Modem, CODEC, and LSI, etc.

- **DRAM Control**

It selects DRAM Control Signal and generates Control Signal when transferring DMA.

- **BUS Control**

Data control between System BUS (+3.3V) and I/O BUS (+5V)

- **Address Decoder Control**

It generates Chip select signal of peripheral LSI.

## 3. System Memory

This system consists of the following memory.

- **F-ROM (IC12)  $\rightarrow$  F-ROM (2MB)** for programming

- **F-ROM (IC11)  $\rightarrow$  F-ROM (2MB)** for programming

The program is booted from F-ROM Card.

- **F-ROM (IC10)  $\rightarrow$  Image Data Memory (2MB)**

During a blackout, the image data is backed up.

- **DRAM (IC7)  $\rightarrow$  Work RAM, buffer (2MB)** for transfer and reception

## 4. Optional Memory for System Side

The Option Memories are:

- **F-ROM Card (4/8MB)  $\rightarrow$  Image Data Memory** for expansion

During a blackout, the image data is backed up.

It is possible to rewrite the program by rebooting the main program from this card.



The Image Data Circuit is independent of System circuit from Page Memory / Sort Memory circuit due to high speed scanning and printing. As a result of this, all image data is managed by the Image Data circuit and only coded data is transferred to the System Data BUS.



## 1. Document Adaptor for New Copier Engine (Gate Array)

DZAC000234 (DANCE) is a Document Adaptor for New Copier Engine (Gate Array) and provides the Image Control peripheral function and Recording Data Control.

### • DMA Control

It is used to transfer data between the following devices.

Scanning Control LSI (MN86076)	→	Page Memory (S-DRAM)	:	Scanning Route
Page Memory (S-DRAM)	→	Sort Memory Control Gate Array (BRIDGE)	:	Coding Route
Sort Memory Control Gate Array (BRIDGE)	→	Page Memory (S-DRAM)	:	Decoding Route
Page Memory (S-DRAM)	→	PMW Control LSI (LP)	:	Recording Route
System Memory (DRAM)	→	Page Memory	:	Report Route

### • Rotation Management

The rotation is carried out by the hardware when transferring the route.

Page Memory (S-DRAM)	→	CODEC for Image (PM-22c)	:	Rotation (Send)
Page Memory (S-DRAM)	→	PMW Control LSI (LP)	:	Copy, Rotation (Receive)

### • S-DRAM Control

It generates S-DRAM Control Signal for Page memory and Refresh Control when the power is ON. It does not backup the Page Memory.

### • PDL Data Transfer

When installing the PDL Option, the actual coded data is retrieved on the PDL side first and is transferred to Page Memory (S-DRAM). Then, the coded data is transferred to the PDL Option on the System side.

### • Picture Quality Correction Circuit (Smoothing)

When the receiving data (8 dot/mm x 3.85, 7.7, 15.4 line/mm) is converted to 16 dot/mm x 15.4 line/mm resolution, the current printed data and 15 surrounding printed data are sent to the Smoothing ROM through 16 bit line and the ROM sends smoothed dot data. As a result of this operation, the distorted curved lines are smoothed.

### • Binary Gray Scale Conversion

The signal of a binary-level image such as copying is converted into a multiple-value (256-scale) image signal. The signal is transferred to an external PWM control LSI for multiple-value recording. A maximum of 7-by-7 pixels around an area is referred to in layers for conversion into multiple-value signal.

### • Gray-Level Enhancement

This control function allows expressing higher-level scales than using a recorded signal, by reducing line density into 1/2 or 1/3 on the original after binary-to-multiple value conversion. This capability increases reproduction of grayscale images such as photographs.

### • Laser Pulse Width Control

After smoothing, the IPC controls Laser pulse width by the software setting of the print quality.

### • Image Range Isolation Circuit

It identifies the halftone picture range and controls smoothing, Binary Gray Scale Conversion, and Laser pulse width control to eliminate blotching of the recording picture which has undergone error diffusion or other process.

### • Reduction / Enlargement Control Circuit

This circuit is used to process the received data so that it fits on the recording paper, according to the Fax Parameter Settings.

- **Synchronization Control Circuit**

This circuit is used to synchronize the output of the recorded data with the horizontal synchronizing output signal from the printer for each line. The IPC controls the resolution of the printer as follows.

16 dot/mm x 15.4 line/mm	:	Report & G3 received data
15.4 dot/mm x 16 line/mm	:	Report & G3 received rotation recording data
400 dpi x 400 dpi	:	G4 received data
600 dpi x 600 dpi	:	Copy, Printer Interface & PDL Interface

- **FIFO/S-RAM Control**

Picture Edit Coding Gate Array uses FIFO for Smoothing & Laser pulse width control, and S-RAM for Smoothing Data and interface controls.

- **Serial Communication Port for LP Interface**

It provides 1ch Serial Communication Port interface for the Printer Mechanical CPU.

## 2. SORT Memory Control Gate Array

BRIDGE (DZAC000233) is a SORT Memory Control Gate Array and provides the data transfer control function between Sort Memory Control, DANCE, CODEC for Image, and System.

- **DMA Control**

It is used to transfer the following data.

Picture Edit/Recording Gate Array (DANCE)	↔	CODEC for Image (PM-22c)	:	Bus Selection
CODEC for Image (PM-22c)	↔	SORT Memory (S-DRAM)	:	Compress, Restore
SORT Memory (S-DRAM)	↔	System Memory (DRAM)	:	Communication

- **S-DRAM Control**

It generates S-DRAM Control Signal for SORT Memory and Refresh Control when the power is ON. it does not backup the Page Memory.

## 3. PWM Control LSI

AD9561 (IC46), which is a PWM control LSI, converts an 8-bit input digital signal into an analog signal with 256-scale pulse width. The conversion allows modulation of pulse width in recorded data, transferring the data to LSU, enabling multiple-value recording.

The pulse width is determined by the Picture Edit/Recording Gate Array (DANCE).

The function performs centering, reading, and trailing edge modulation in the pulse.

## 4. Optional Memory for Image Side

The Optional Memories are:

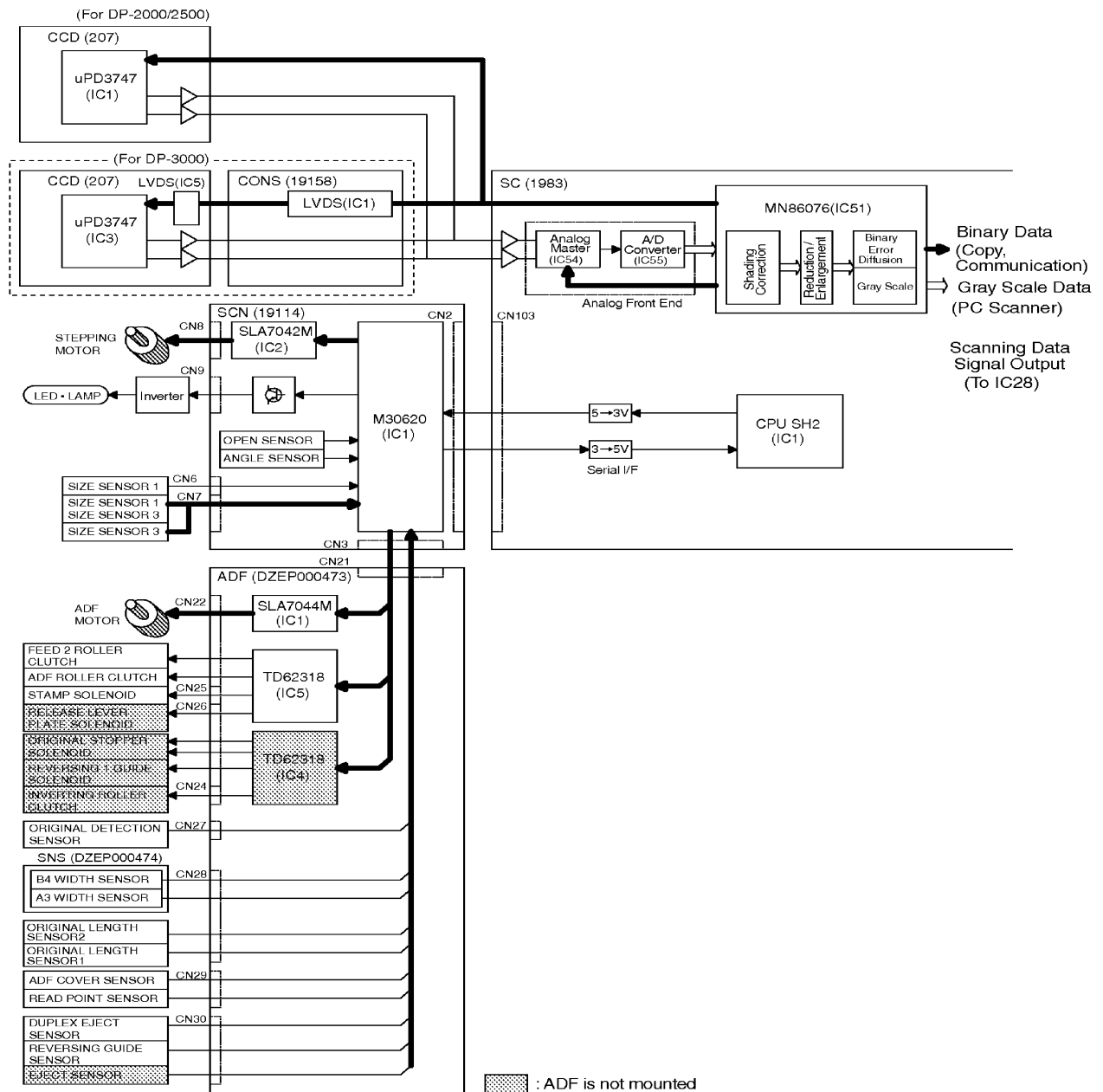
- **Memory PC Board (SODIMM) → DRAM Card (16 MB)** for Page memory

When copying 2-sided originals, install an optional DRAM Card to increase Page Memory into CN107 on the SC PCB.

- **Memory PC Board (SODIMM) → DRAM Card (8/16/128 MB)** for Sort memory

Install the DRAM Card for Sort memory to CN151 on the SORT PCB.

## 6.4.4. Scanning Circuit



### 1. Scanning LSI

MN86076 (IC51) is a Scanning LSI and generates Shading Correction, MTF Correction, Reduction/Enlargement, and Gray Scale Error Diffusion. The Image Signal is converted to binary signal and transported.

### 2. Scanning Mechanism Control CPU

M30620 is a 16 bit type of CPU that controls scanning mechanism. It controls TX Motor, Scanning LED, Verification Stamp, Sensor Detection, and Solenoid Drive Control.

### 3. TX Motor Drive Circuit

TX Motor Drive Circuit is controlled by SLA7042M and SLA7044M (SCN PCB IC2, ADF PCB IC1).

### 6.4.5. Coding

Coding and decoding (MH/MR/MMR/JBIG conversion) is carried out by the hardware codec device. There are 2 codecs, Image Codec and Communication Codec.

- **PM-22c (IC33) : for Image Codec**

It codes or decodes the data transferred from Sort memory. When copying, this codec codes from the Image data to JBIG data. When communicating, this codec codes from Image data to MMR data.

- **MN86064 (IC25) : for Communication Codec**

This codec is used during TX/TR communication. When saving, this codec codes from the Image data memory to MMR data.

### 6.4.6. Option PC Board

1. SORT PC Board (DZEC101632) : Performs Sorting function (For DP-2000 only).

2. FXB PC Board (DZEC101737) : 1ch G3 Fax Communication.

**Note:**

For DP-2000, SORT PCB is also required.

3. G3B PC Board (DZEC101657) : 2ch G3 Fax Communication  
(when G3B PCB and LCE/LCU PCB are installed).

**Note:**

For DP-2000, SORT PCB is also required.

4. LANB PC Board (DZEC101620) : LAN Communication  
(when the LANB PCB and LANC PCB (DZEC101664) are installed).

**Note:**

For DP-2000, SORT PCB is also required.

Auto-sensing 10/100Base-T Ethernet Interface.

5. PRIF PC Board (DZEC101661) : PRIF (Printer Interface) PCB (Option for DP-2000/2500 only)  
Provides a Centronics Interface connection for the PC.

**Note:**

For DP-2000, SORT PCB is also required.

6. EP PC Board (DZEC101696) : PDL Control PCB  
Prints Page Description Language (PDL) data.

**Note:**

PDL PDL PCB must be installed in combination with LANB/PRIF PCB.

7. SDRM PC Board (DZEC101554/DZEC101666/DZEC101667) : SDRAM Memory PCB

Duplex Page Memory	16 MB	: DZEC101666 (Included with the ADU Option)
Sort Memory	8 MB	: DZEC101554
(For DP-2000, SORT PCB is required)	16 MB	: DZEC101666
	128 MB	: DZEC101667

#### 6.4.7. Sleep Mode

**Note:**

When 10/100 Ethernet Interface / Internet Fax Kit is installed, the Sleep Mode is disabled.

This function reduces the power consumption in standby mode. During Sleep Mode, power is supplied only to the Energy Saver Lamp to keep it at a steady ON condition, to the circuit that monitors incoming Ringing signals and to circuits that maintain Deferred communications. The power is recovered only when an incoming Ringing signal is detected, the time to perform a Deferred communication has lapsed or the Energy Saver key is pressed.

##### Sleep Mode Availability

No.	Item	Sleep Mode	Remark
1	10/100 Ethernet Interface/Internet Fax Kit Option is installed	No	
2	When an ALARM Status indication is displayed	No	

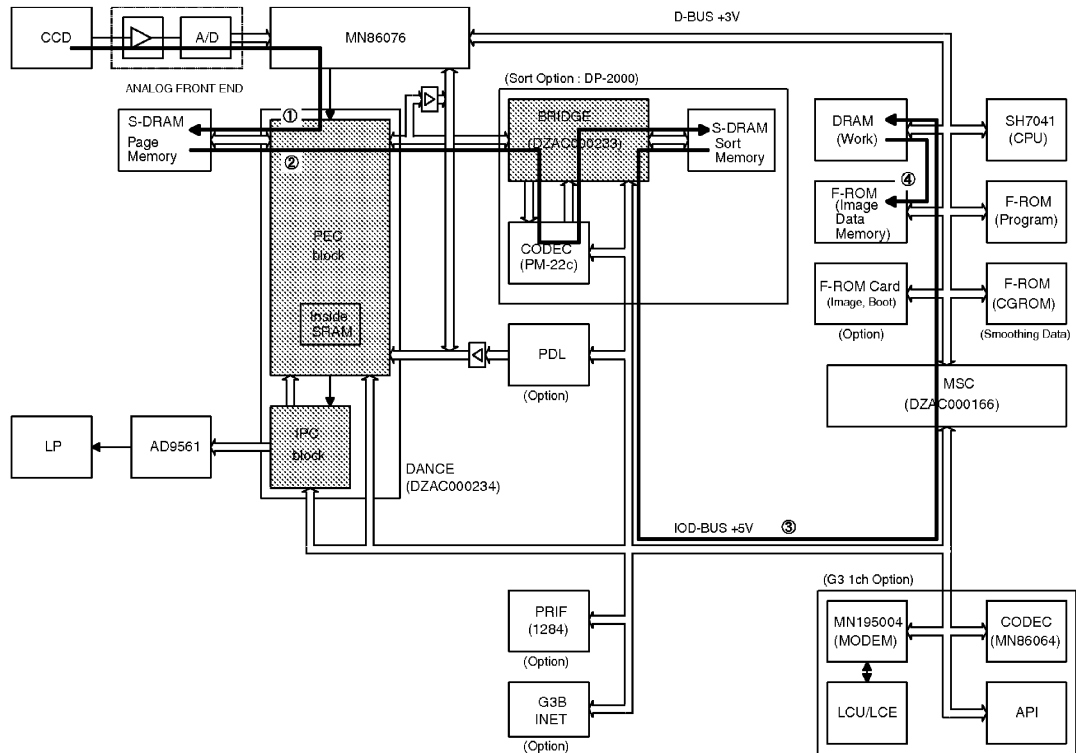
##### Recovers from Sleep Mode

No.	Item	Recovers from Sleep Mode	Remark
1	When Energy Saver key is pressed	Yes	
2	Deferred Communication time is lapsed	Yes	
3	Time for Deferred Communication	Yes	
4	Original Sensor is actuated	Yes	No Document Sensor with Flatbed
5	Ringing signal detected	Yes	No 1300Hz detection
6	Off-Hook (External telephone or Handset)	Yes	
7	When printing from a PC	Yes	

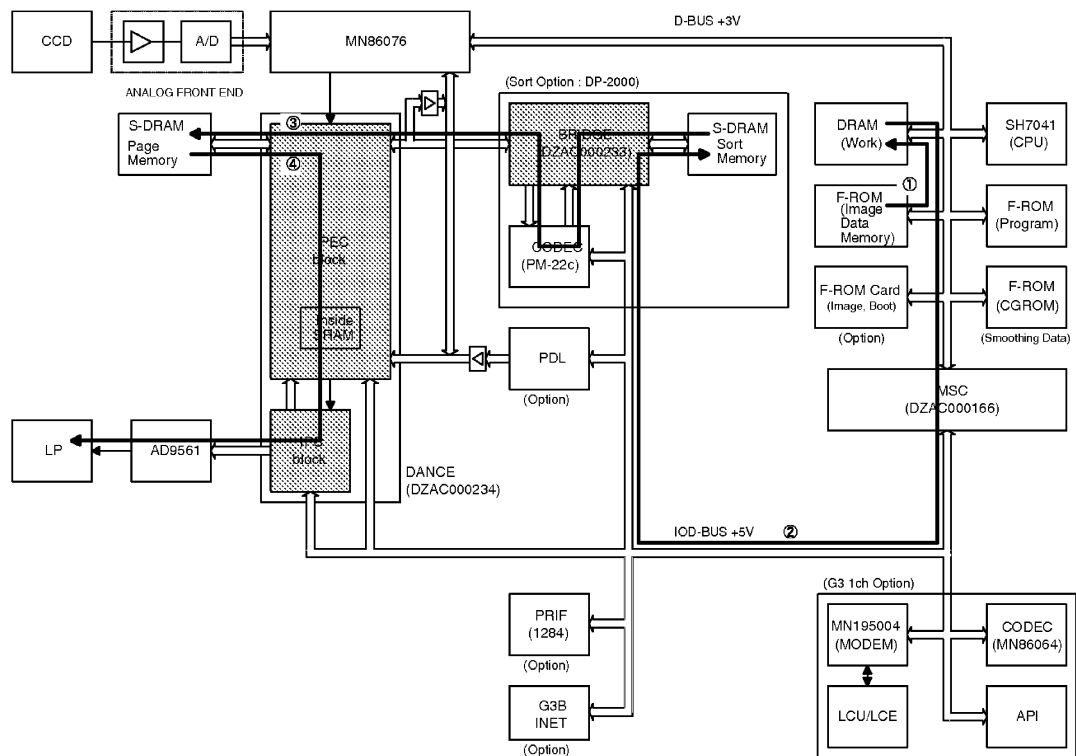
**1. Copy**



### 3. Scan into Memory

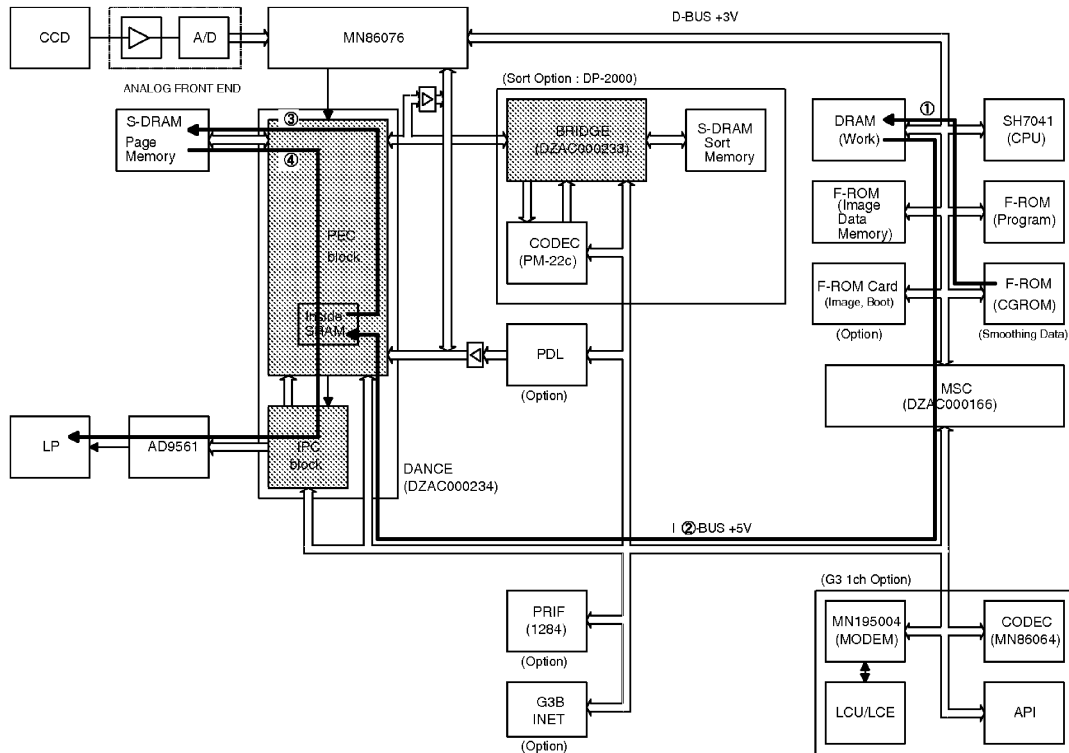


### 4. File Print from Memory

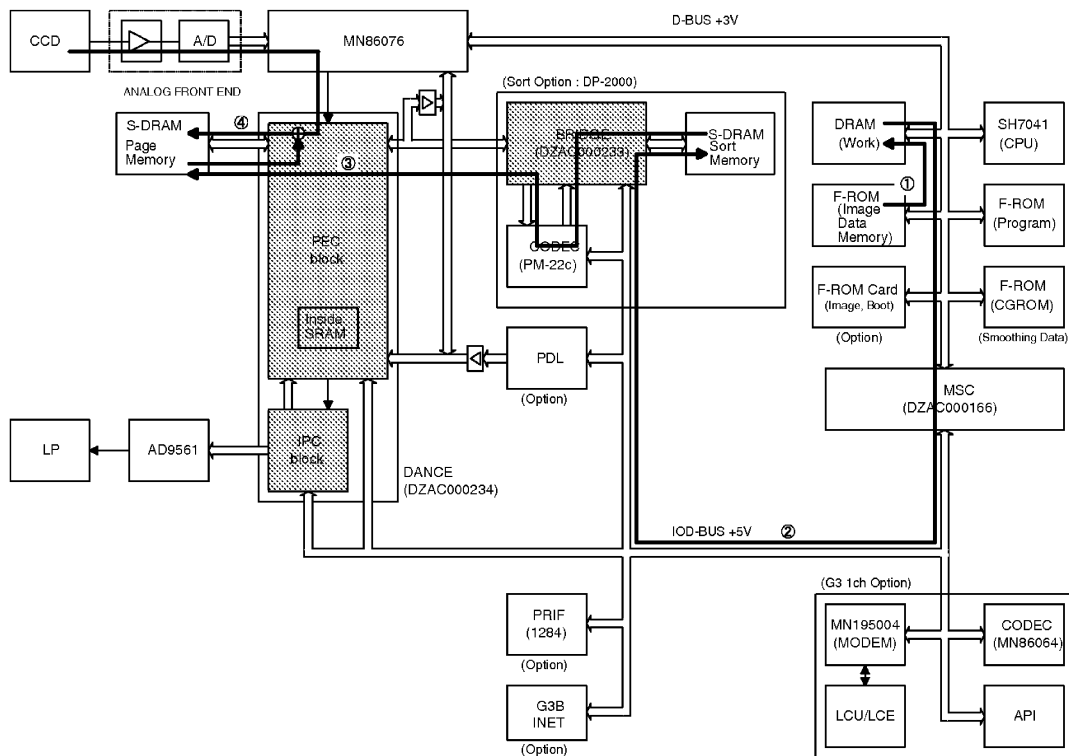




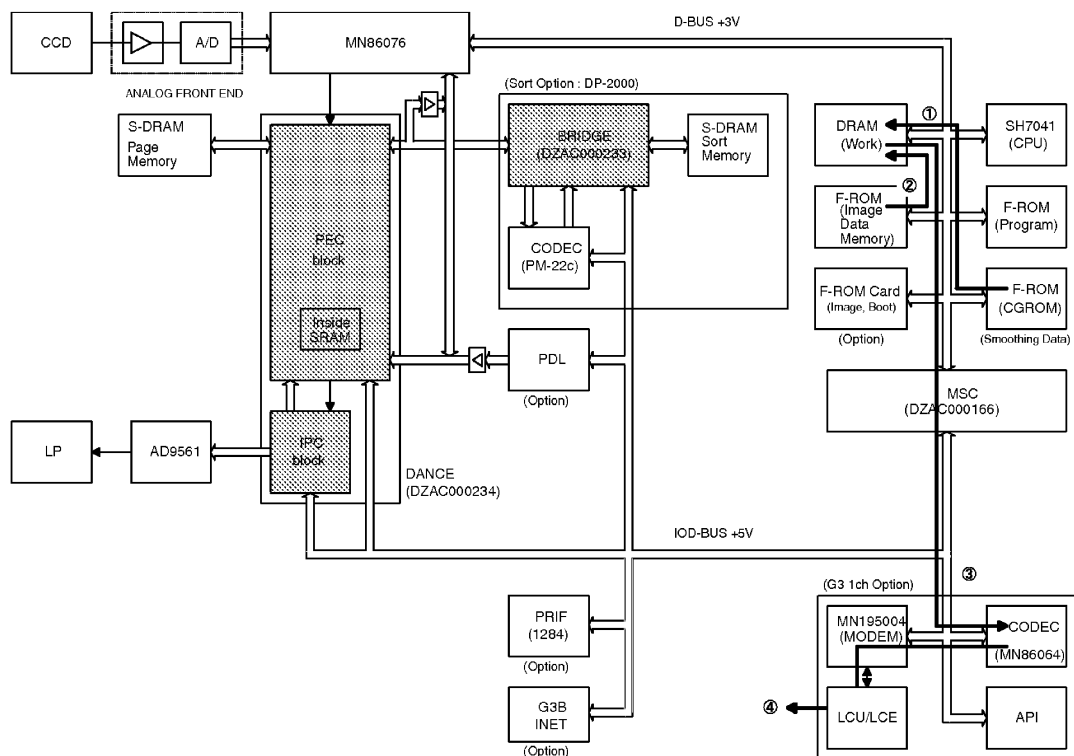
## 5. Page Numbering



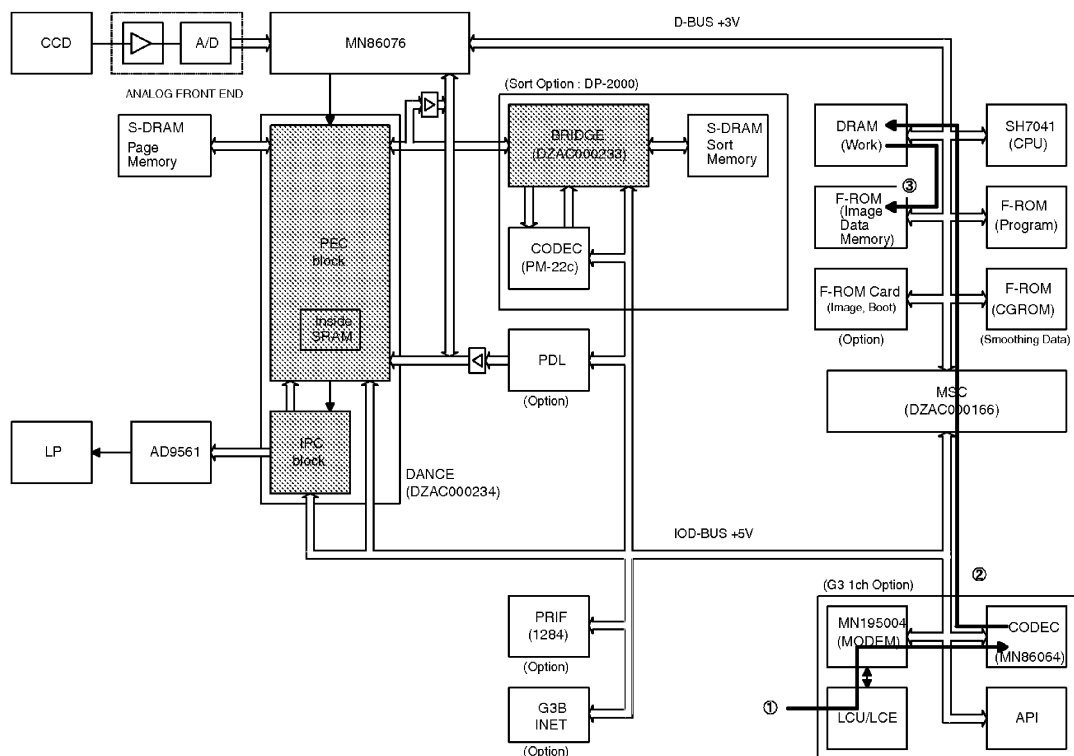
## 6. Overlay



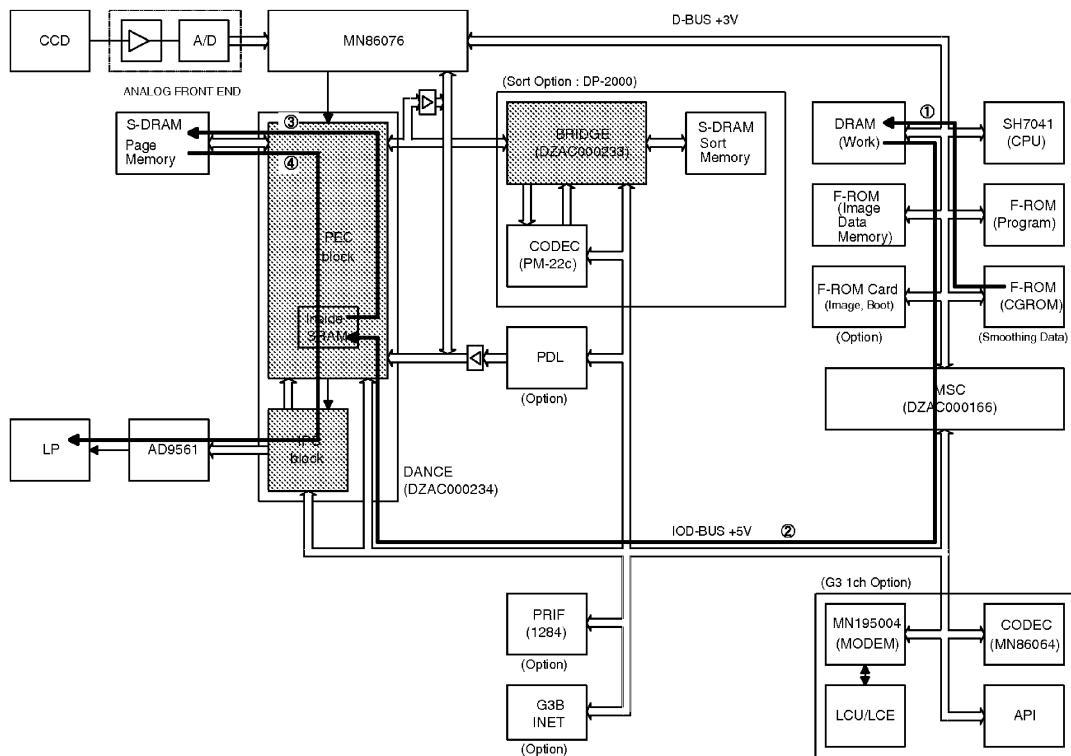
## 7. Memory Transmission



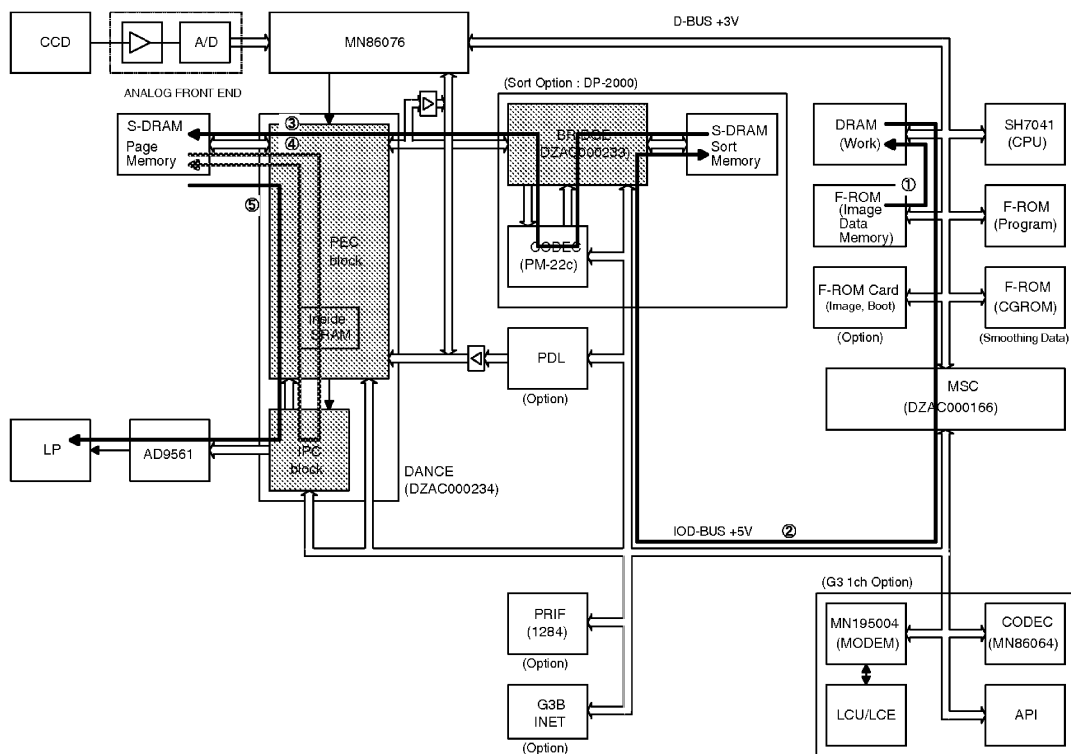
## 8. Memory Reception



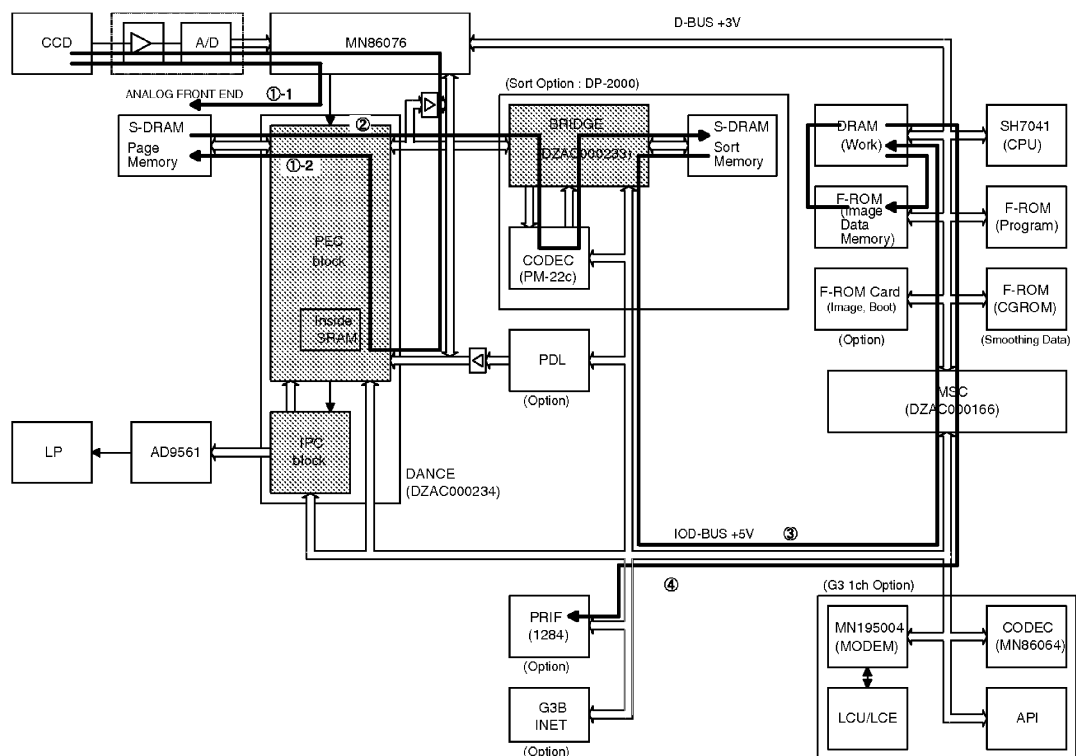
## 9. Report/List Printing



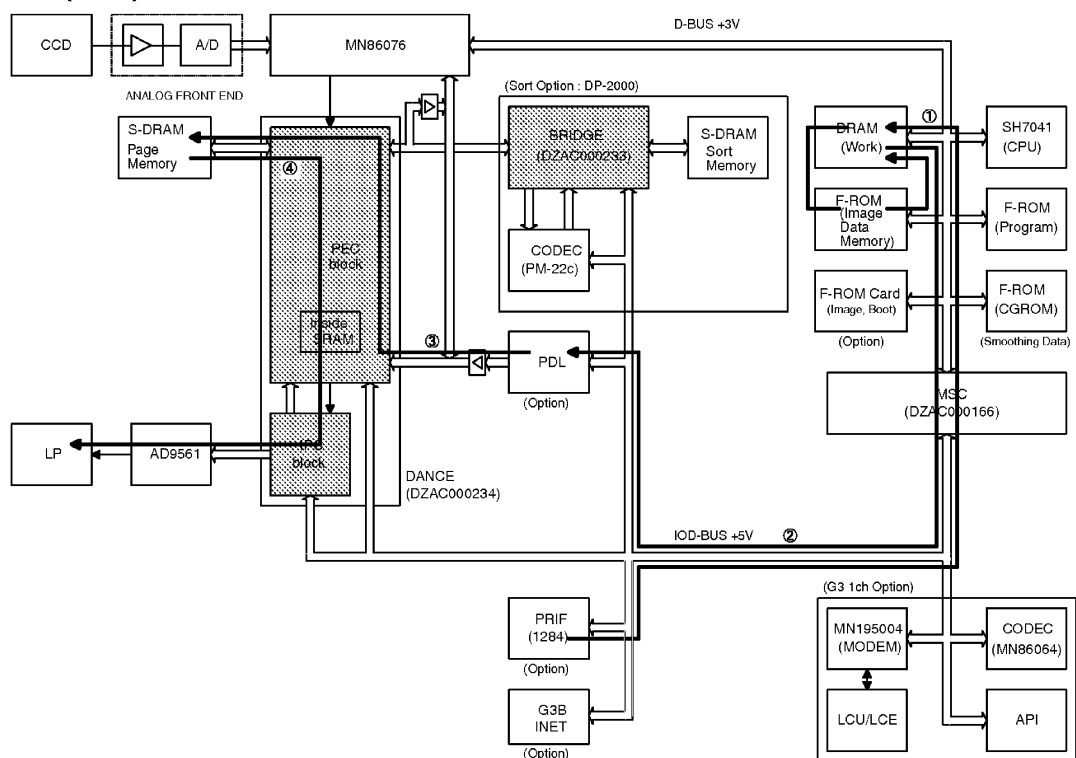
## 10. Report with Image Data



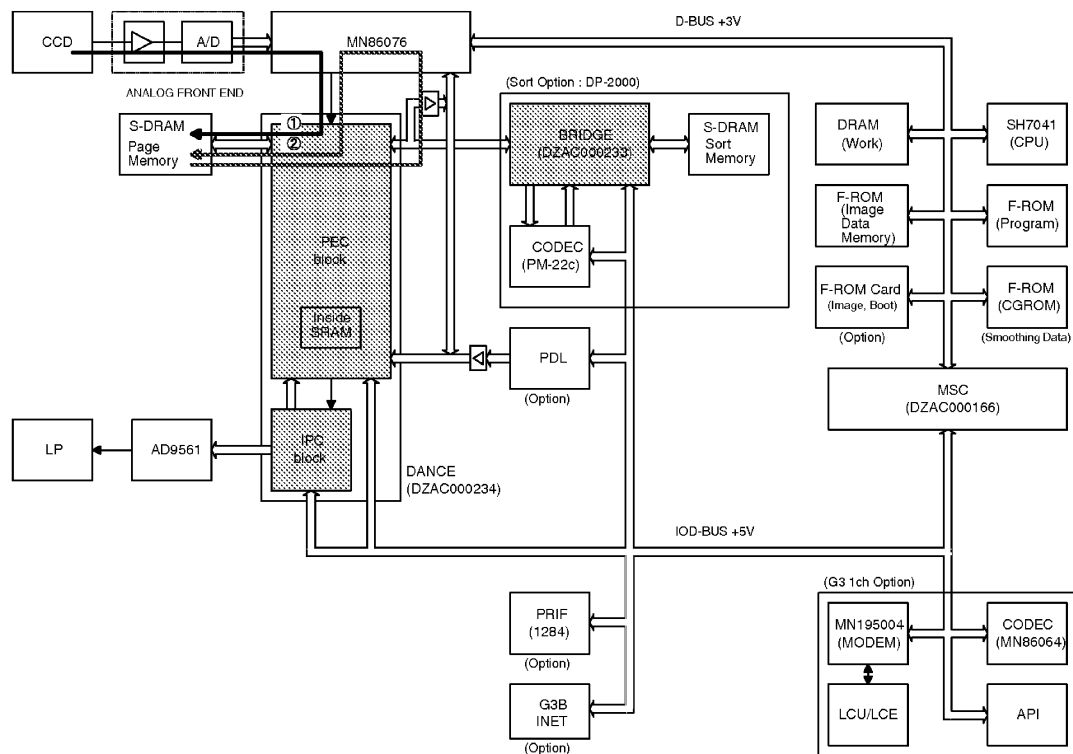
## 11. PC Scanning Mode (Binary/Gray Scale Scanning)



## 12. Printer I/F (PDL)

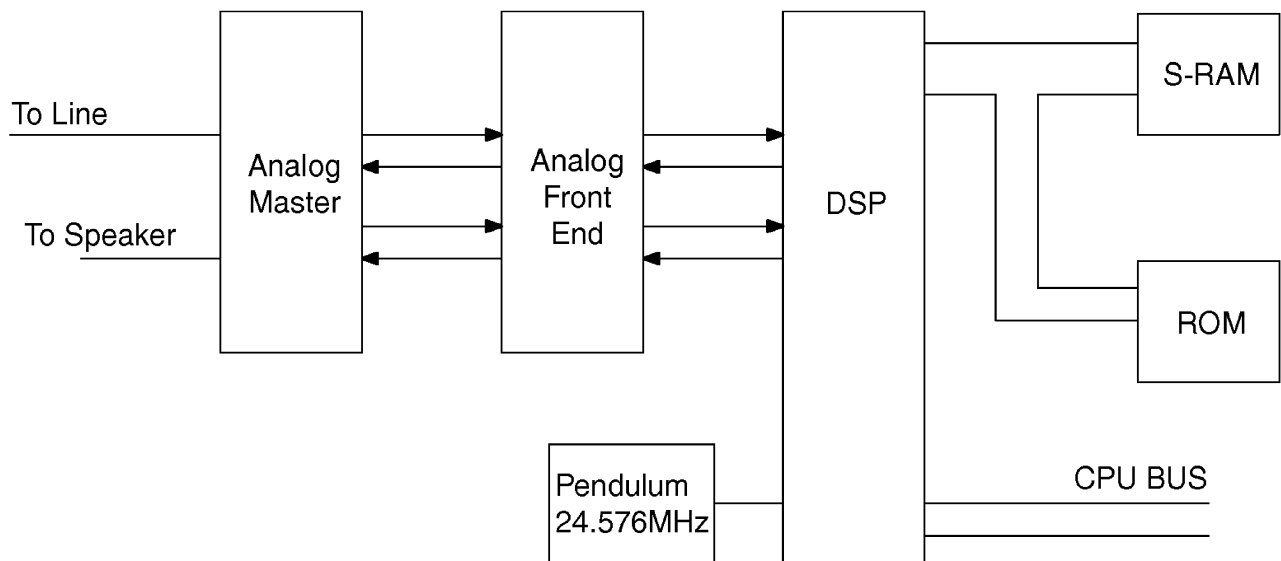


### 13. Multi-Size Feed



#### 6.4.9. Modem and Peripheral Circuit

This circuit consists of DSP, ROM, S-RAM, Analog Front End, Analog Master and peripheral circuitry. This modem conforms to ITU-T, V.34, V.33, V.17, V.29, V.27ter, V.21 channel 2 (FSK), T.4, and T.30. Macro order of DSP is sent from ROM to S-RAM and is outputted. DSP transfers/receives data from Analog Front End and serial communication. Analog Front End communicates with the line through Analog Master.



Modem Circuit Block Diagram

#### 6.4.10. Receive Signal Control Circuit

This circuit consists of Operational Amplifier, Analog Master, and its peripheral circuit. On the received signal from a line transformer (HYBSR), diffraction of signal transmission is attenuated using the hybrid circuit, and the frequency of signal is limited to a certain band using a second LPF.

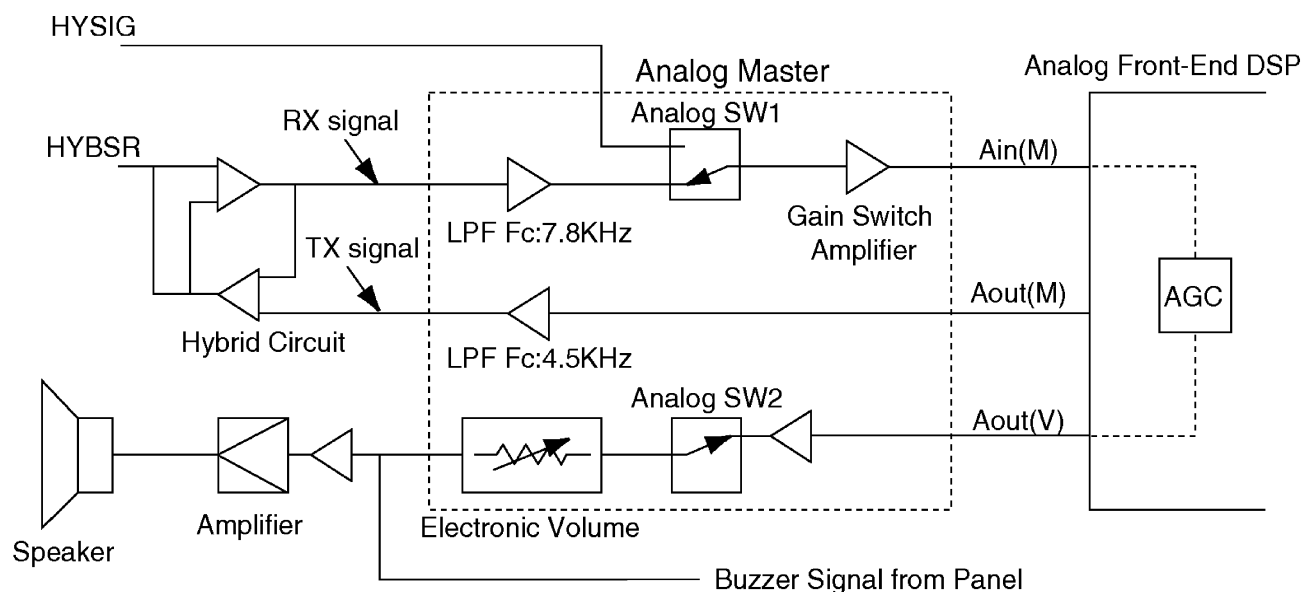
The signal is input to the analog front end via the analog SW for switching over between HYSIG and the gain switching amplifier. 1300-Hz signal and remote signal are detected from HYSIG by switching SW1.

#### 6.4.11. Transmission Signal Control Circuit

This circuit consists of Operational Amplifier, Analog Master, and its peripheral circuit. On the signal transmission from the analog front end, frequency of the signal is limited to a certain band using a second LPF, and diffraction of the signal to a reception circuit is attenuated using the hybrid circuit. The signal is sent out from the line transformer.

#### 6.4.12. Line Monitor Circuit

The Line Monitor Circuit consists of an operational amplifier, analog master and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the Ain (M) passes through an AGC circuit and is conditioned by the Analog Front-End DSP and is then input to the Analog SW2 for volume control. The signal is then input to the Speaker Amplifier, where it is amplified to a level sufficient to drive the speaker. The key touch tones and Buzzer Signals from the panel are input to the Analog SW2 for volume control and then input to the Speaker Amplifier. The monitor tone from the phone line and the buzzer tone from the panel can be adjusted from the Control Panel.



The following shows a block diagram of the Line Control Board.

The image displays three detailed circuit diagrams for different models of a device, likely a fax machine or modem. Each diagram is divided into three main sections: MODEM, API, and LCU/LCE/MDM.

- MODEM Section:** This section shows the interface with the telephone line. It includes components like CML (Common Mode Limiter), PLS (Pulse Limiting Switch), and various detectors (Off-Hook, Ringing, Ring Detector). It also features a HYBSR (Hybrid Switching Relay) and a GND connection.
- API Section:** This section is responsible for signal processing and control. It includes a T2 (Timing) section, a Ring Detector, and a Ring Detector for Auto-Receive. It also features a +5V supply, a nHKOFF 9, and a nCTON 9.
- LCU/LCE/MDM Section:** This section contains the logic and control logic. It includes a +24V supply, a CML, a PLS, and a TCK (Timing Control) section. It also features a Q1, Q2, and Q3 (transistors), a PLSD 6, and a TCKD 14.

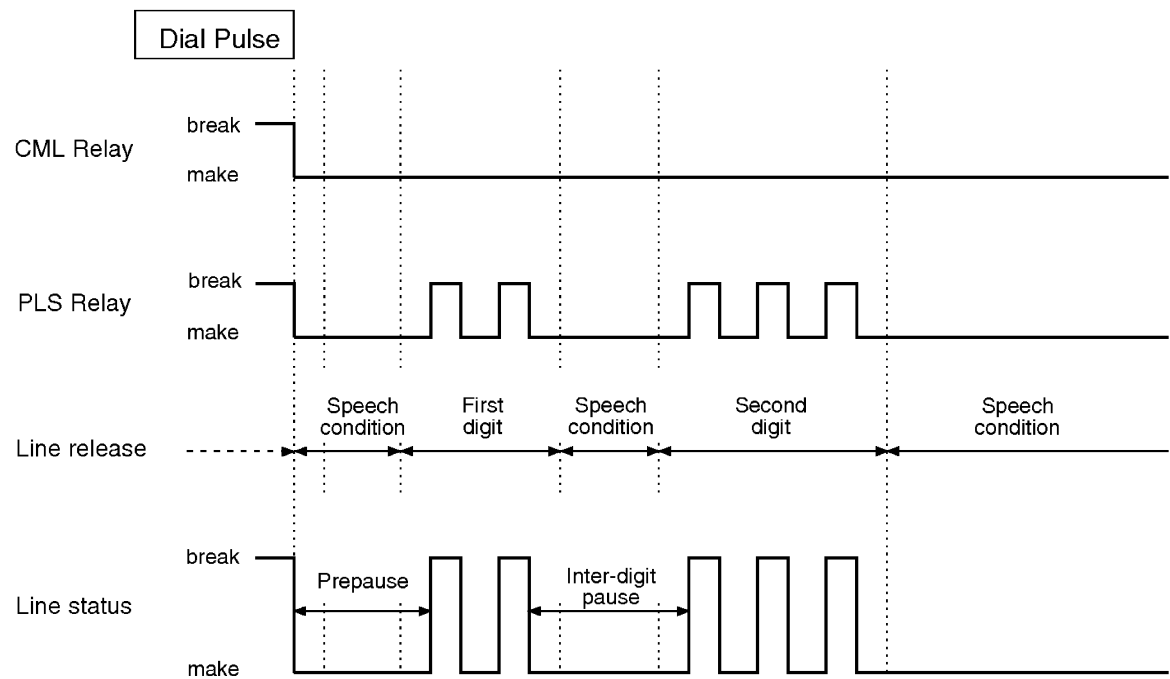
The diagrams are labeled with their respective model numbers at the bottom: [DZYN1435\*], [DZYN1436\*], and [DZEP000441].

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoupler, PC1 (PC2 for LCE), and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the IC80 which monitors it for a specified time. If the IC80 detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.



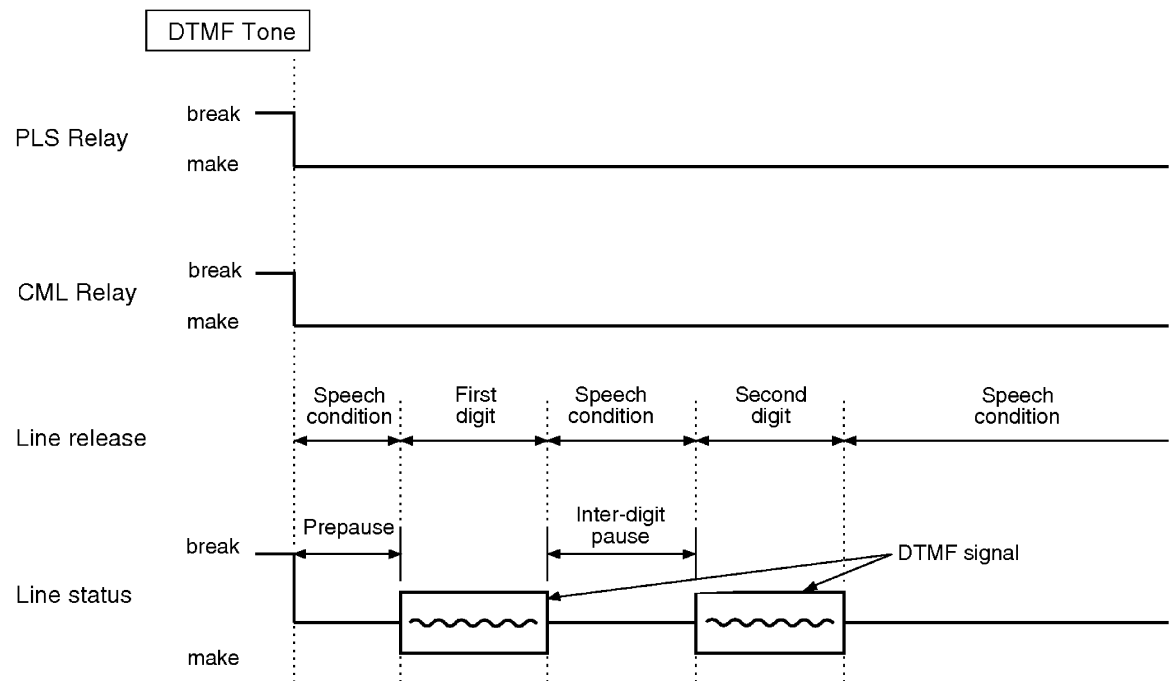
Dial Pulse Generator

The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The CPU on the SC PC Board controls all dial pulse generation sequences. It turns relay CML ON and OFF through the DZZSP58025 (IC80). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the CPU turns CML relay ON to develop loop status (DC loop). After a few seconds, the CPU turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.



DTMF Tone Generator

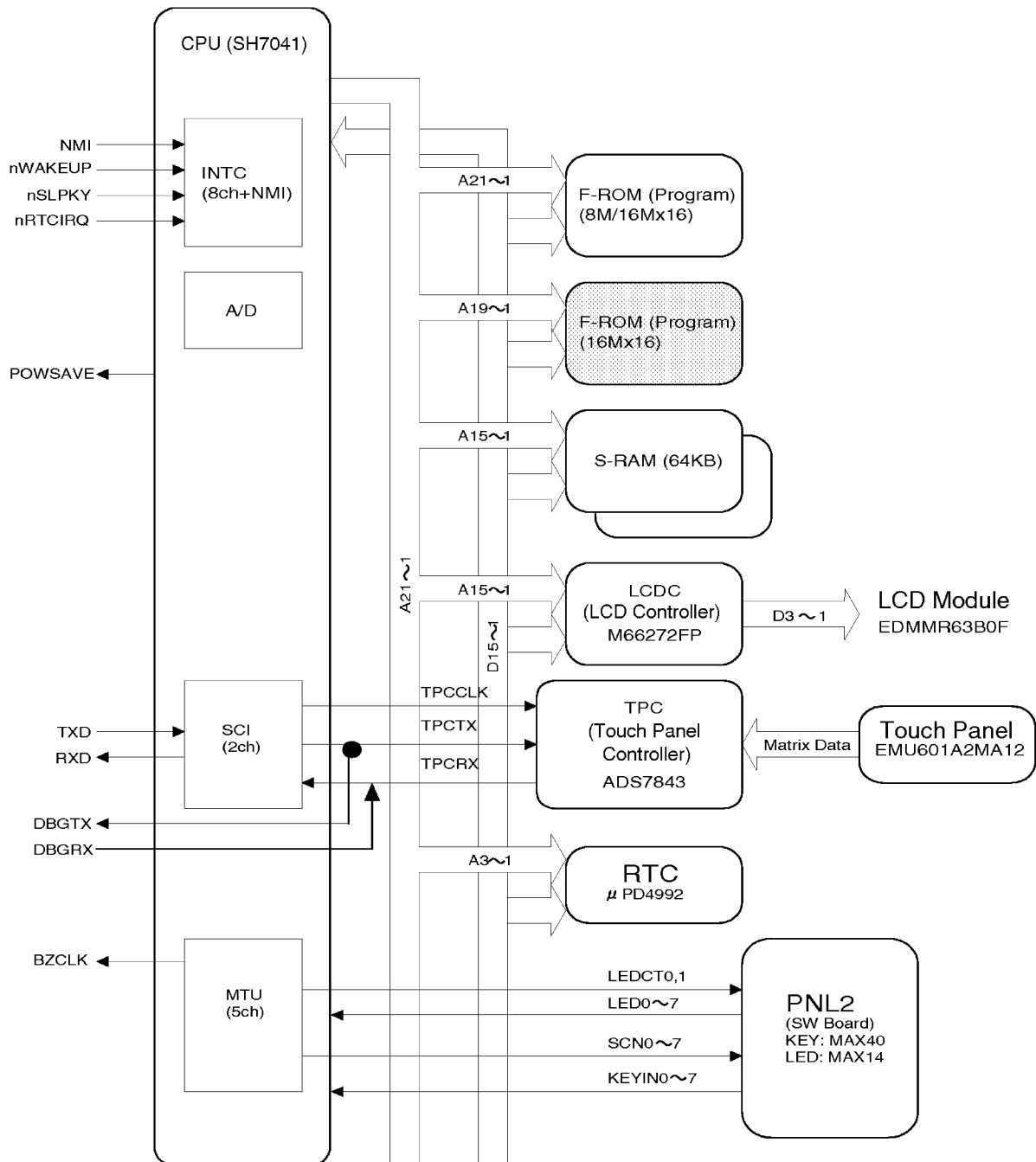
The circuit is incorporated in the MODEM on the SC PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the CPU. The relay status during dialing is shown below.



#### 6.4.14. Panel PC Board

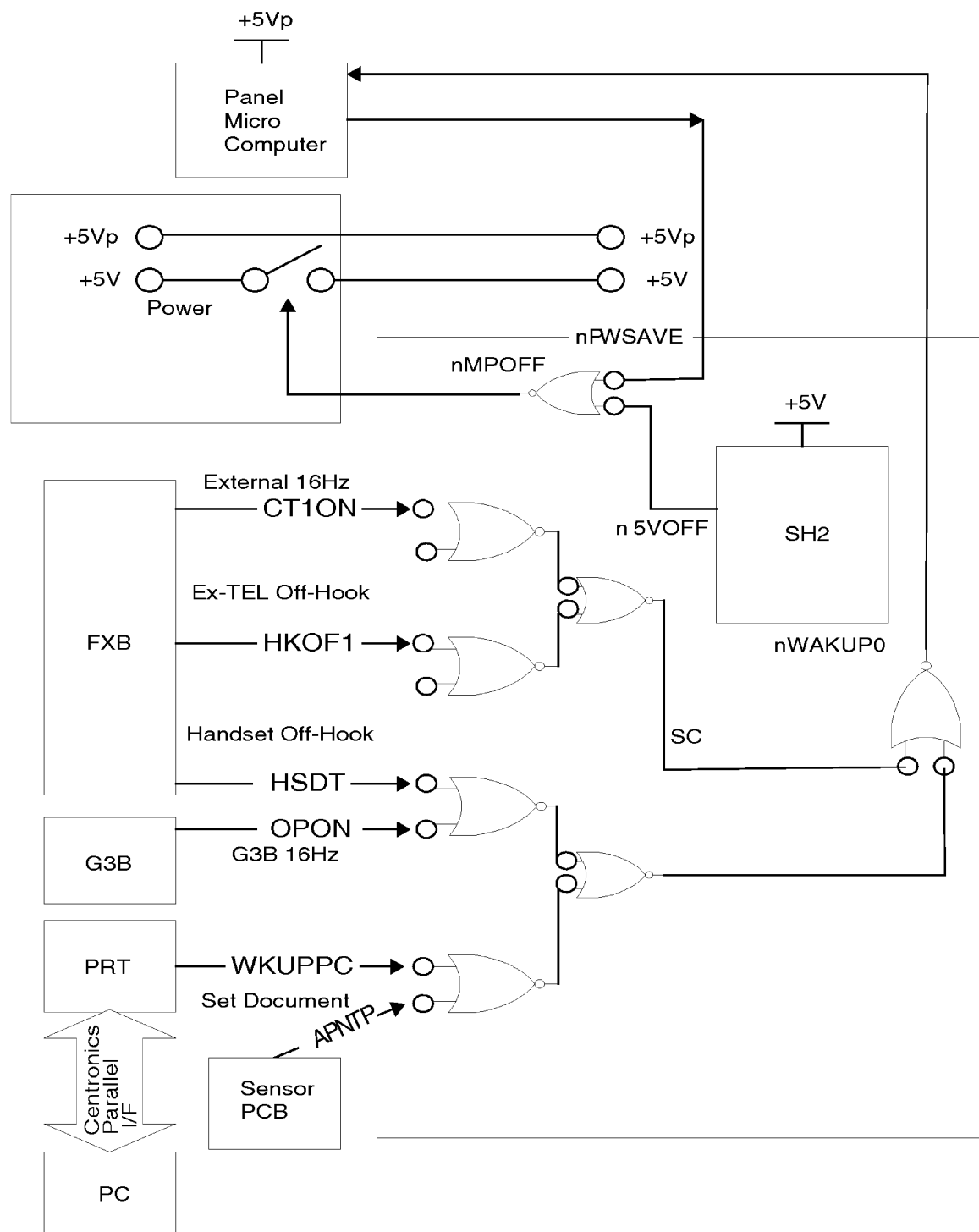
This Panel PC Board consists of Panel Control Sub-CPU, LCD Controller, Touch Panel Controller, S-RAM Memory, FLASH Memory (Program, Image Data), Alarm IC (Backup), LED, and Key Switch.

The Sub-CPU receives the command of synchronized serial data from SC PCB and executes LCD Display, LED Lamp, Switching Scan, Key Touch Sound, and Alarm Sound. The signal PON is turned to LOW with the command from SC PCB and shifts to Sleep Mode. When Sleep Mode (Auto Off) is on, only +5VP is reactivated and +5V (for LED Driver) and +24V (for Status LED, Alarm, and Back light) is cut off. After detecting the signal nWAKEUP which is input from SC PCB, the signal nPOWSAVE is turned to HIGH in order to recover from Sleep Mode and reactivate the main power of the machine.



The machine will recover from Sleep Mode by the following conditions.

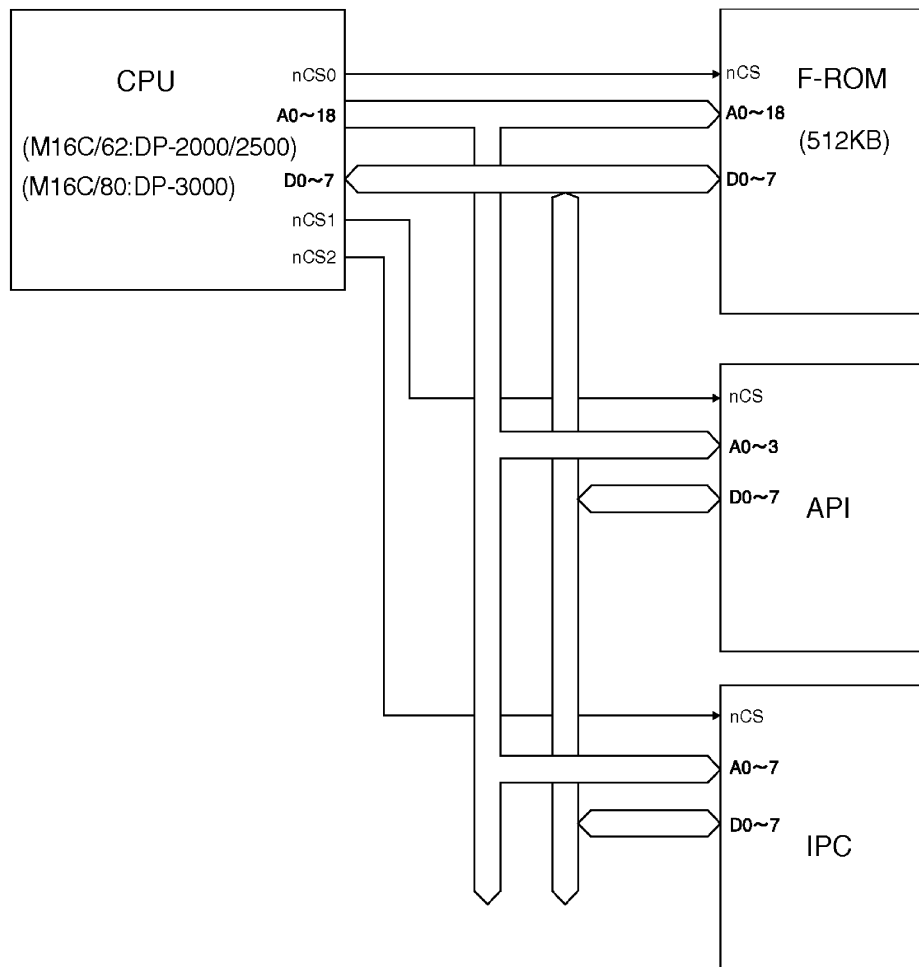
1. Push on Energy Saver Key
2. Original Sensor Actuated
3. Signal Detected
4. Off-Hook (Handset)
5. Off-Hook (External Telephone)
6. Data Signal from Printer I/F



### 6.4.15. Laser Printer Motor Drive Circuit

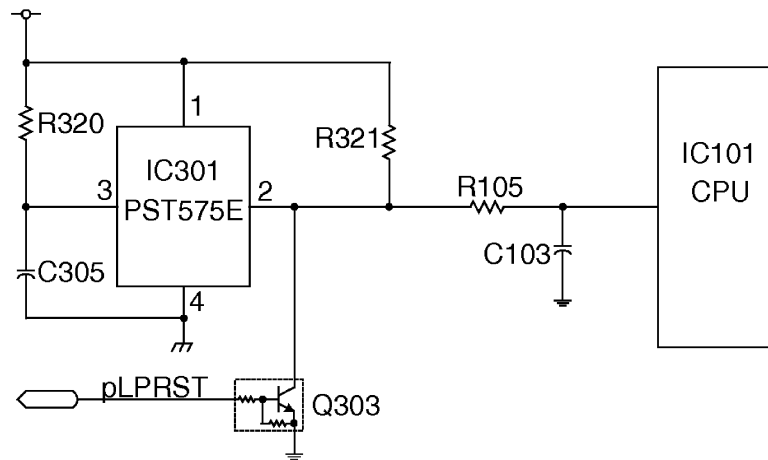
#### 1. System Description

It consists of 16 bit CPU M30620SFP (for DP-2000/2500) or M30805SGP (for DP-3000), FROM for programming, peripheral I/O, and IPC Micro computer for Finisher I/F. The CPU controls mechanism of Laser Printer, Fuser Lamp temperature, and Laser Unit.

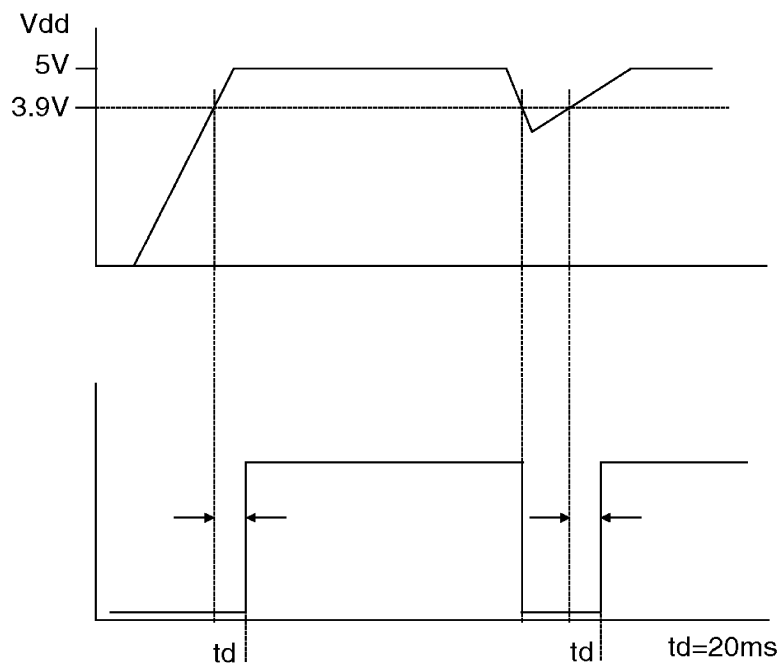


## 2. Reset Circuit

This circuit consists of IC301 (PST575E) and peripheral circuit. This circuit always watches 5V. Output of this circuit (nRST) is set that if 5V falls below setting level (3.9V). When the 5V rises above voltage, the reset signal is canceled after a delay of approximately 20 ms. After cancelling, software is started by CPU.



Reset Circuit



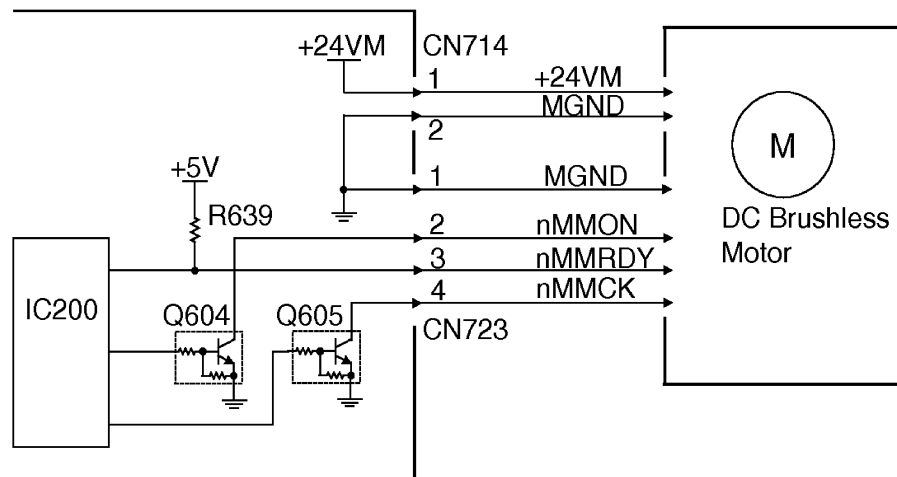
Reset Signal Timing Chart

### 3. Printer Motor Drive Circuit

This Printer Motor is a Brushless DC Motor.

- |               |   |  |
|---------------|---|--|
| <b>nMMON</b>  | : | When the signal level goes Low, the Printer Motor starts rotating.   |
| <b>nMMRDY</b> | : | Rotation status signal for Printer Motor. When the Printer Motor reaches a constant speed, nMMRDY signal level goes Low. |
| <b>nMMCK</b>  | : | Clock signal for Printer Motor Drive   |

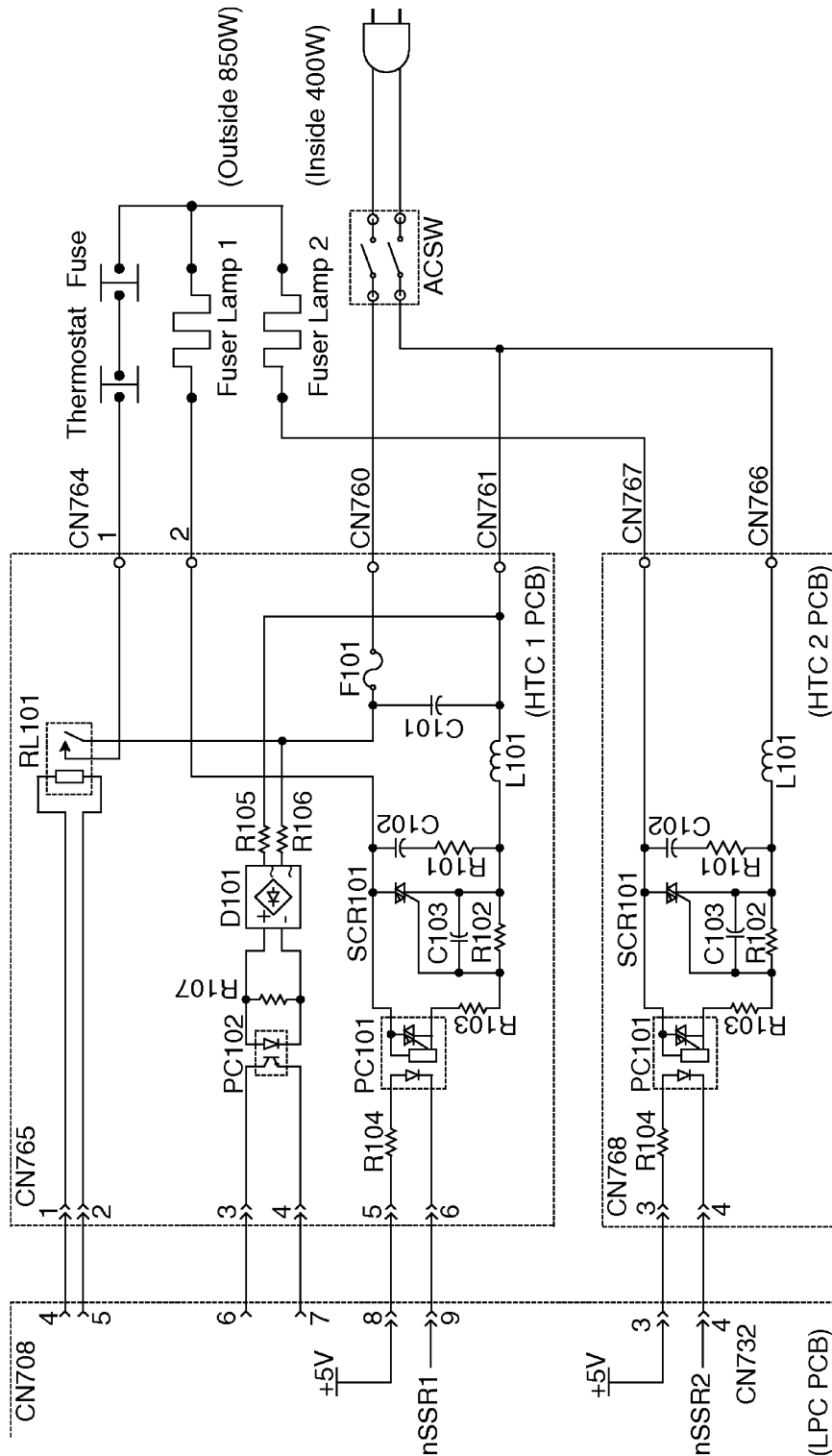
The Printer Motor is powered by +24 VDC supply. When the interlocks are open, the +24 VDC supply is cut off and the Printer Motor stops rotating.



#### 4. Fuser Lamp Drive Circuit

It consists of 2 Fuser Lamps and each Fuser Lamp is controlled by two HTC PC Boards.

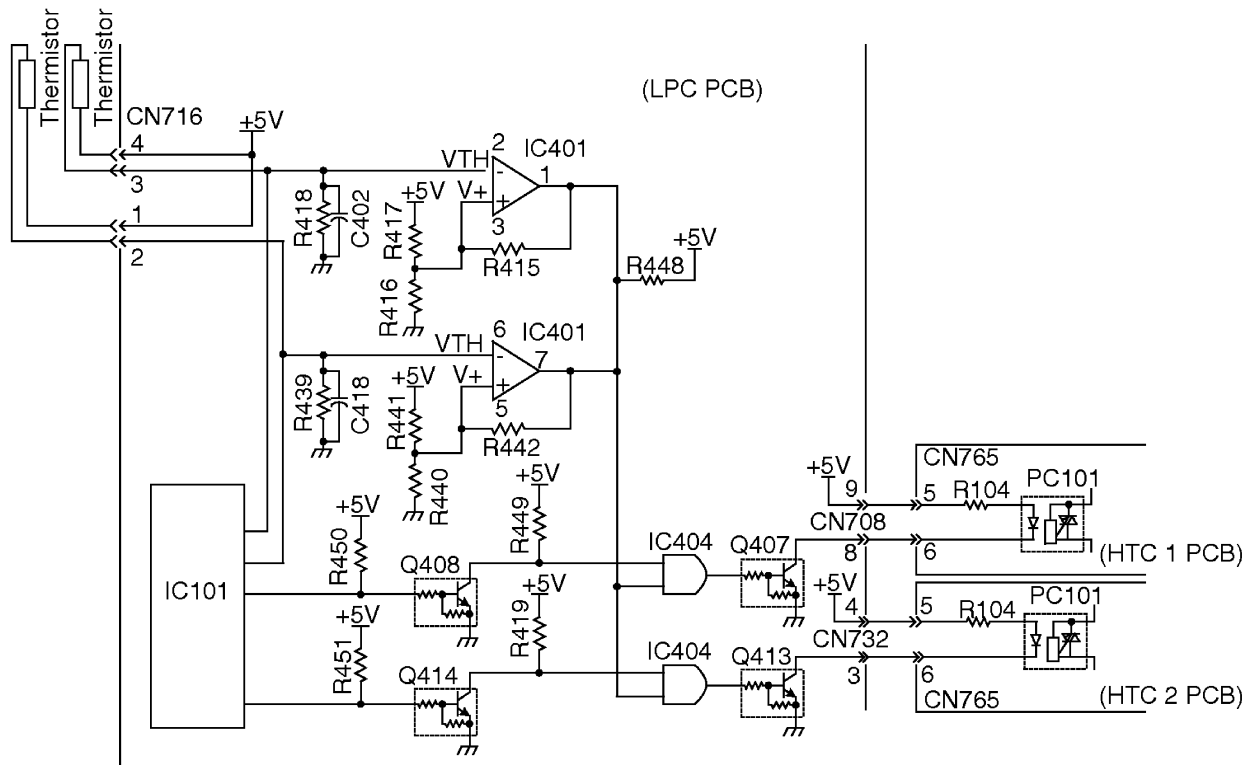
The Fuser Lamp is powered by 100 VAC. When the CN765, Pin 6 (nSSR) on the HTC PCB goes LOW, the Fuser Lamp turns ON. This lights up the PC101 LED and activates the SCR101 photo-triac, and 100 VAC is sent to the Fuser Lamp.



## 5. Fuser Temperature Control Circuit

The fuser temperature is controlled by IC101 on the LPC PC Board, which contains A/D (Analog/Digital) converters. IC101 adjusts temperature, observing two Thermistors and voltages separated by R418 and R439 with A/D converters. When the PC101 drive current is transmitted from the LPC PC Board to the HTC PCB, the Fuser Lamp turns ON. IC401 is a converter with open output at pins 1 and 7 and is used as an abnormal temperature detection circuit. IC401, pin 1 and 7, has a high impedance when Q407 and Q413 are activated, turning ON the Fuser Lamp. An abnormal temperature is detected when the VTH voltage level becomes higher than V+, forcing IC401, pin 1 and 7 Low and deactivating Q407 and Q413.

Abnormally low and high temperatures, as well as Thermistor release status, are detected by IC101 (CPU) programming.

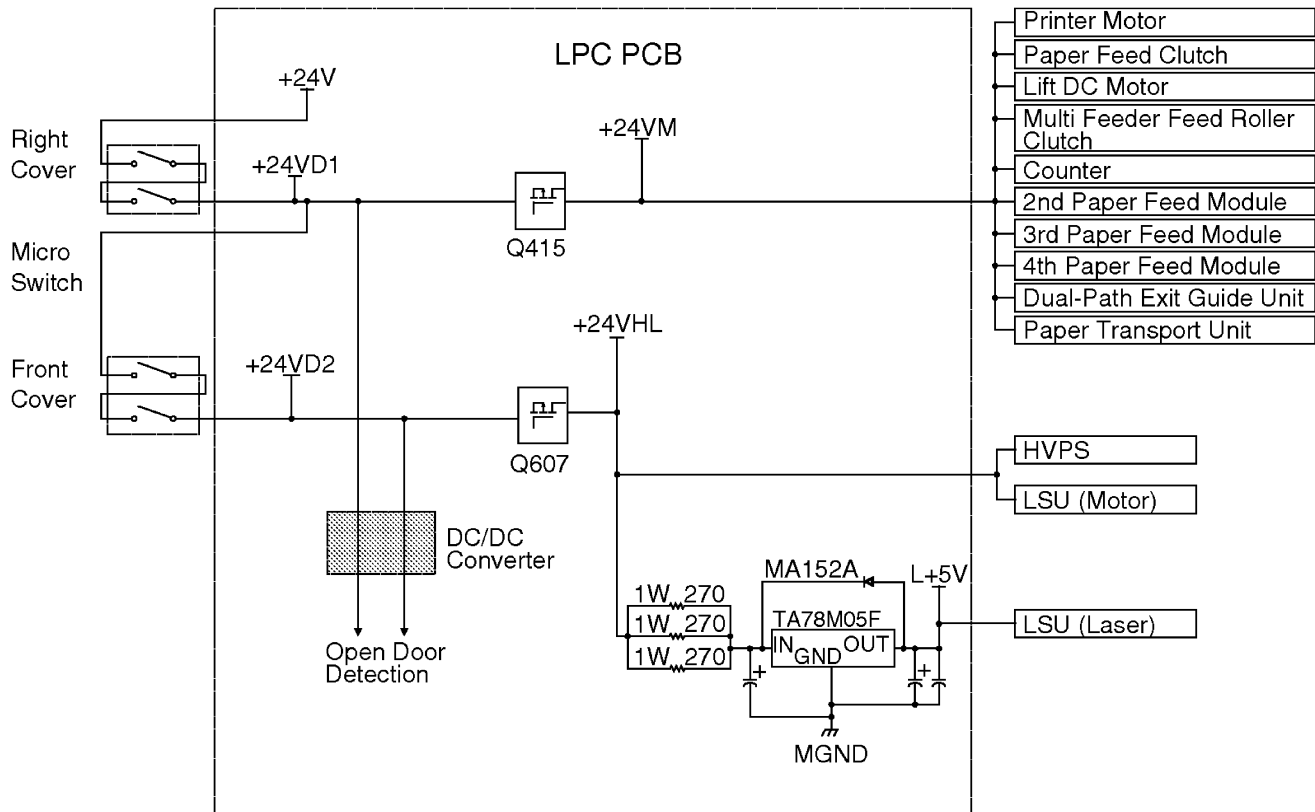


**Fuser Temperature Control Circuit**



## 6. Interlock Safety Circuit

This safety circuit turns OFF the +24 VDC and +5 VDC supply voltages when the Printer Cover is opened. When the Printer Cover is opened, the microswitch(es) on the ILS PC Board are de-actuated, turning OFF +24 VDC to the Printer Motor Drive Circuit, the HVPS, the Paper Feed Solenoid Circuits, the Clutch Drive Circuit, and the Laser Driver Circuit on the Laser Unit.



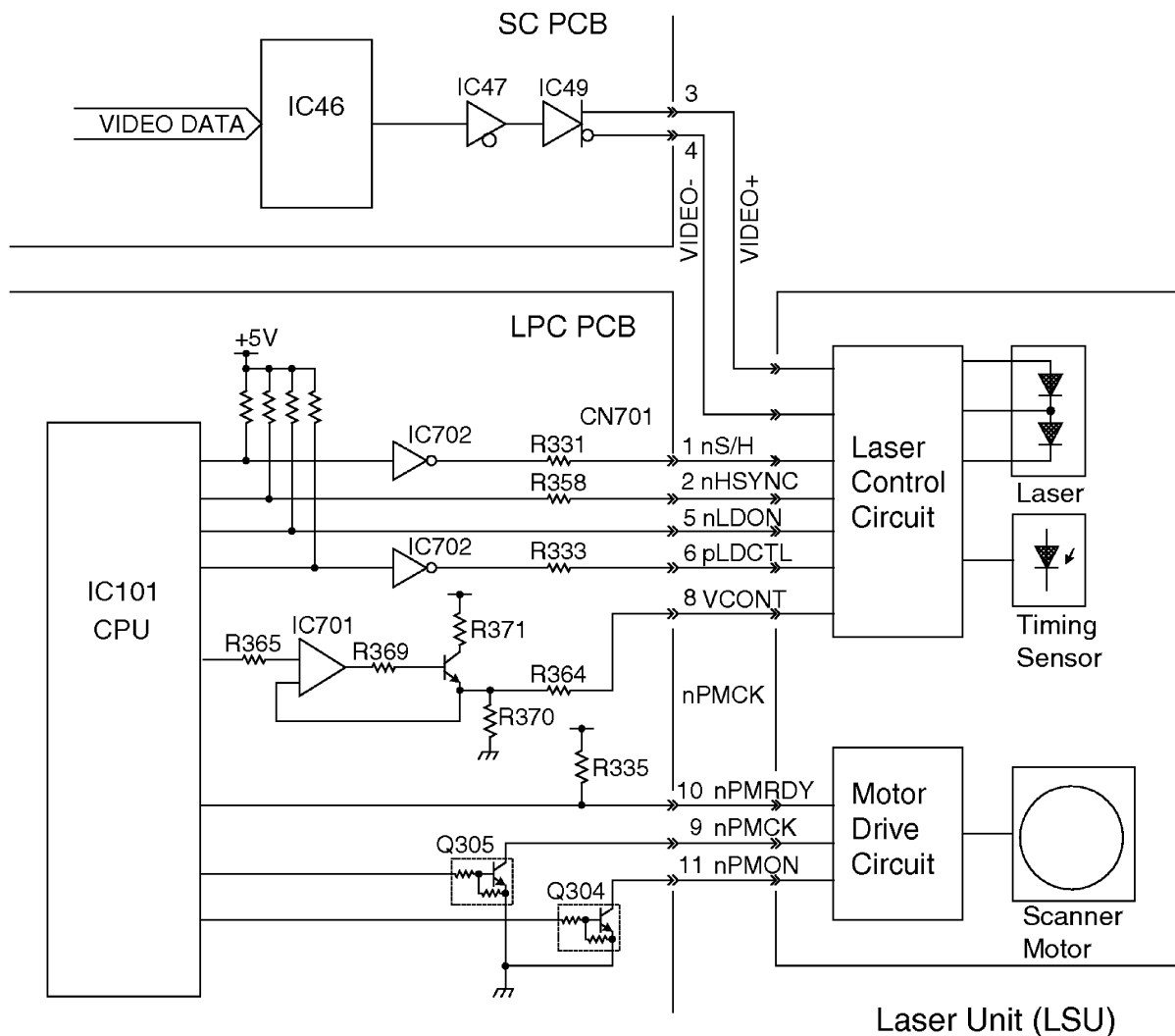
**Interlock Safety Circuit Block Diagram**

## 7. LSU Control Circuit

The laser control signals are described below.

Actual data is sent from SC PCB to LSU.

- VIDEO+** : Actual data is outputted by these 2 signals.
- VIDEO-**
- nS/H** : Laser Power Sample/Hold Timing Signal.
- nHSYNC** : This horizontal synchronization signal transmitted from the Beam Detection Sensor sets the horizontal position of the laser beam as it crosses the OPC Drum.
- nLDON** : The LSU is activated when this output signal is LOW. If an error occurs, the nLDON output signal level goes High and the LSU is deactivated.
- pLDCTL** : This signal turns ON the laser output to activate nHSYNC signal.
- VCON** : This is the Analog Voltage for adjusting Laser output power.
- nPMCK** : This is the Polygon Motor Drive Clock.
- nPMRDY** : When the Polygon Motor speed is constant, the nPMRDY is at a Low output signal level.
- nPMON** : This is the Polygon Motor Control Signal. The Polygon Motor rotates when the nPMON output signal level is LOW.



## 7 Exploded View & Parts List


### 7.1. Country Codes

**CAUTION: denotes hazards that could result in minor injury or damage to the machine.**

- This product contains a Lithium Battery. Danger of explosion if the battery is incorrectly replaced.

Replace only with the same or equivalent type. Dispose of used batteries according to the instructions of your local solid waste officials.

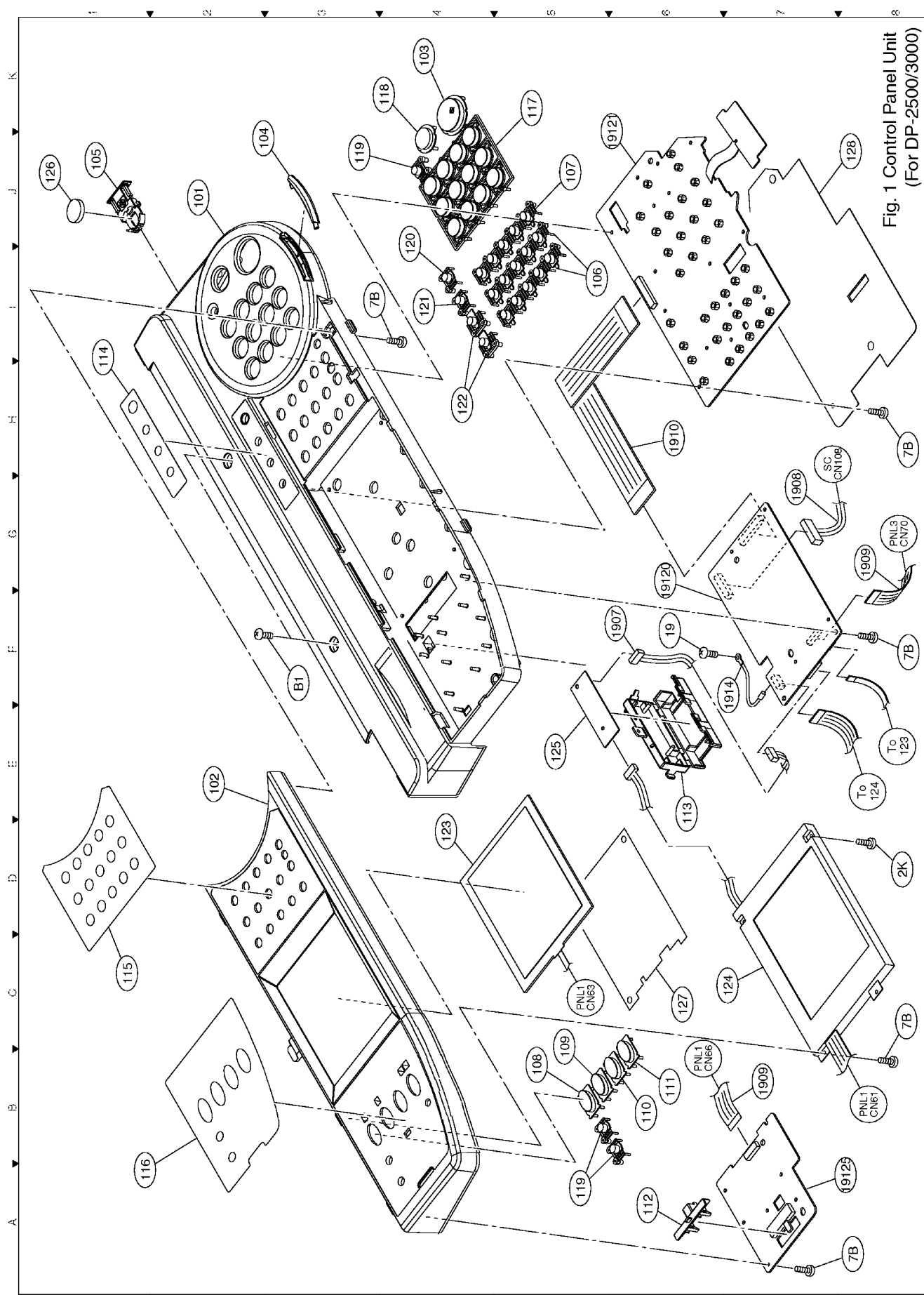
**Note:**

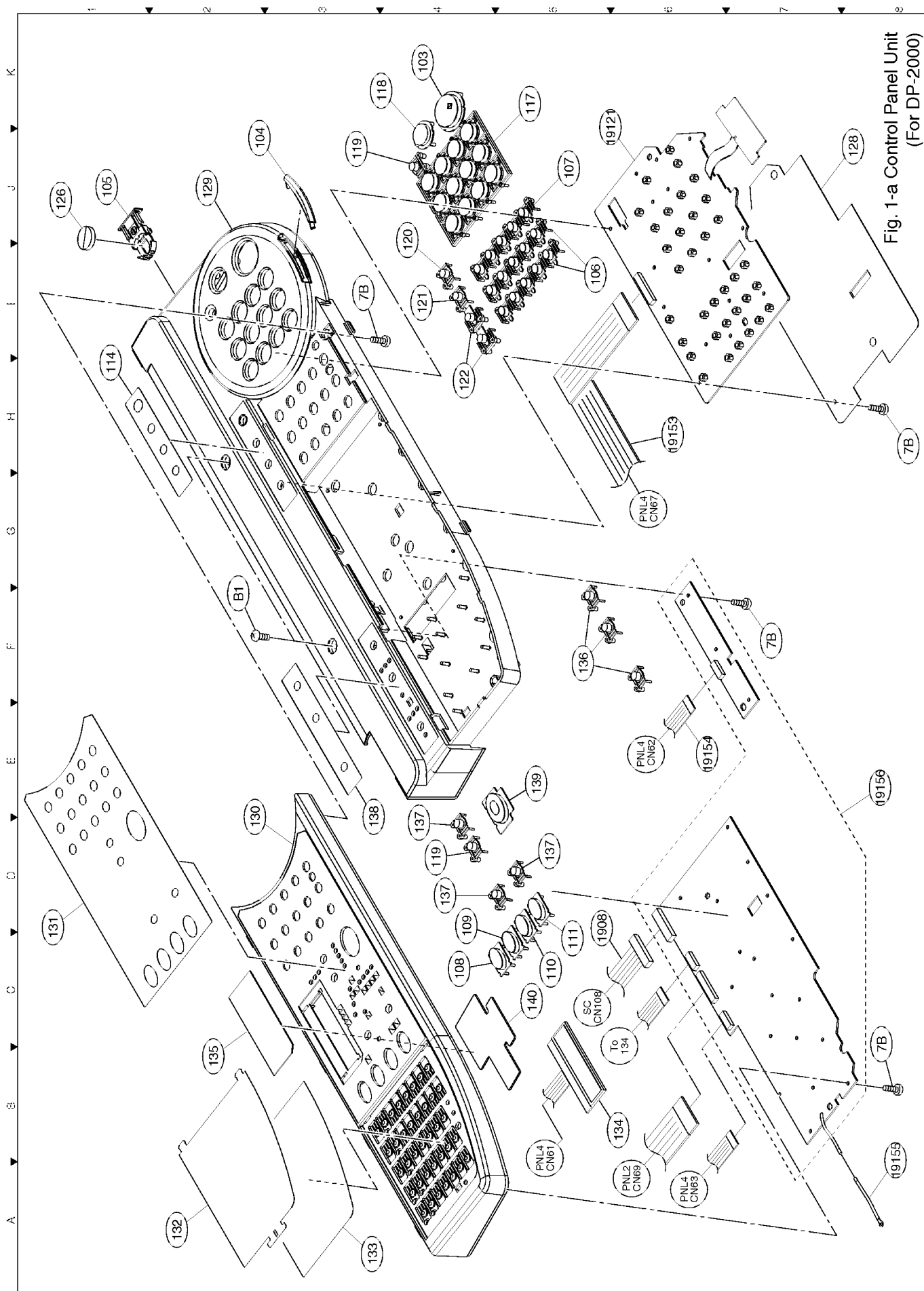
1. Panasonic Document Imaging Company reserves the right to change any information enclosed herein without prior notification. (This includes, but is not limited to, parts pricing and availability, and text)
2. Electrical parts supplied may include previously used components.
3. Important safety notice  
Components identified by  mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.
4. In New Parts column, "N" indicates part is used only in DP-2000/2500/3000 model, "C" indicates part is used in previous models.

Country Code	Country	Country Code	Country	Country Code	Country	Country Code	Country	Country Code	Country
AA	Austria	AK	Hong Kong	AU	USA, Puerto Rico	YE	Indonesia	YT	Thailand
AB	England	AL	Australia	AV	France	YF	Poland	YU	U.A.E.
AC	Canada	AM	Switzerland	AW	New Zealand	YG	Greece	YV	China
AD	Denmark	AN	Norway	ED	Egypt	YH	Hungary	YW	South Africa
AE	Taiwan	AP	Portugal	EE	Italy	YJ	Czechoslovakia	YX	Singapore
AF	Finland	AQ	Ireland	YA	Panama, Peru, Chile, Argentina, Brazil (200 VAC)	YM	Malaysia	YY	Mexico, Panama, Brazil (100 VAC)
AG	Germany	AR	Belgium		Brazil (200 VAC)	YN	Philippines, India		
AH	Netherlands	AS	Sweden	YB	Berkele	YR	Russia		
AJ	Spain	AT	Turkey	YC	Universal 200 VAC Version	YS	Saudi Arabia		









### 7.3. Scanner Unit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	201	DZGG000049	Stepping Motor	N	
	202	DZLK000011	Belt, Inner Timing	N	
	203	DZLMK000012	Belt, Outer Timing	N	
	204	DZGM000008	Lamp, Xenon	N	PM
	206	DZKP000141	Plate Spring, Mirror 2	C	
		DZHP003530			
		DZHPO04390			For DP-2000/2500
	207	DZHP004819	OCD Assembly	N	
		DZHP004820			For DP-3000
	208	DZLBK000021	Belt, Synchro	N	
	209	DZLBO00130	Base, Front Lamp	N	
	210	DZJBO00131	Base, Rear Lamp	N	
	211	DZJM000361	Slider	N	PM
	212	DZJO000734	Cover, Inverter Upper	N	
	213	DZJB000735	Cover, Inverter Lower	N	
	214	DZB0000132	Base, Mirror 2	N	
	215	DZJC000251	Holder A, FPC Cable	N	
	216	DZJC000252	Holder B, FPC Cable	N	
	217	DZLB000026	Pulleys, MXL34	N	
	219	DZLB000023	Pullies L	N	
	221	DZMO000095	Bushing, P6	N	
	223	DZLB000022	Pulleys S	N	
	224	DZA0A00641	Bracket, Lamp Base	N	
	225	DZLO000097	Belt Lock, Front Lamp	N	
	226	DZLA000098	Belt Lock, Rear Lamp	N	
	227	DZLO000099	Belt Lock, Front Lamp	N	
	228	DZLO00100	Belt Lock, Rear Lamp	N	
	229	DZA0A00642	Bracket, Adjustment	N	
	230	DZKO000187	Plate Spring, Mirror	N	
	231	DZNC000006	Plate, Reflection	N	
	232	DZKO000190	Plate Spring, Lamp	N	
	233	DZA0A00643	Bracket, Mirror 2	N	
	234	DZLO000101	Mirror Clamp, Front	N	
	235	DZLO000102	Mirror Clamp, Rear	N	
	236	DZLO000103	Mirror Belt Lock, Front	N	
	237	DZLO000104	Plate, Lock Adjustment	N	
	238	DZLO000105	Mirror Belt Lock, Rear	N	
	239	DZB0000134	Frame, Scanner Base	N	
	240	DZLO000106	Frame, F/R Scanner	N	
	241	DZLO000107	Frame, Left Scanner	N	
	242	DZLO000108	Frame, Right Scanner	N	
	243	DZLO000109	Rail, Rear Scanner	N	
	244	DZLO000110	Rail, Front Scanner	N	
	245	DZUB000135	Base, Size Sensor	N	
	246	DZA0A00644	Bracket, INS Sensor	N	
	247	DZJA000645	plate, Scanner Locking	N	For DP-2500/3000
	248	DZLB000024	Pulleys, Idler	N	For DP-2000
	249	DZUA000647	Bracket, Motor	N	
	250	DZUA000648	Bracket, Pulley	N	
	251	DZJM000500	Covering Film, SNS	N	
	252	DZJA000741	Plate Spring, Mirror 1	N	
	254	DZJM000362	Carriage Sheet	N	
	255	DZKN000176	Coil Spring, Pulleys	N	
	258	DZKN000177	Coil Spring, Adjustent	N	
	259	DZHA000138	Insulation Sheet A, FPC Cable	N	





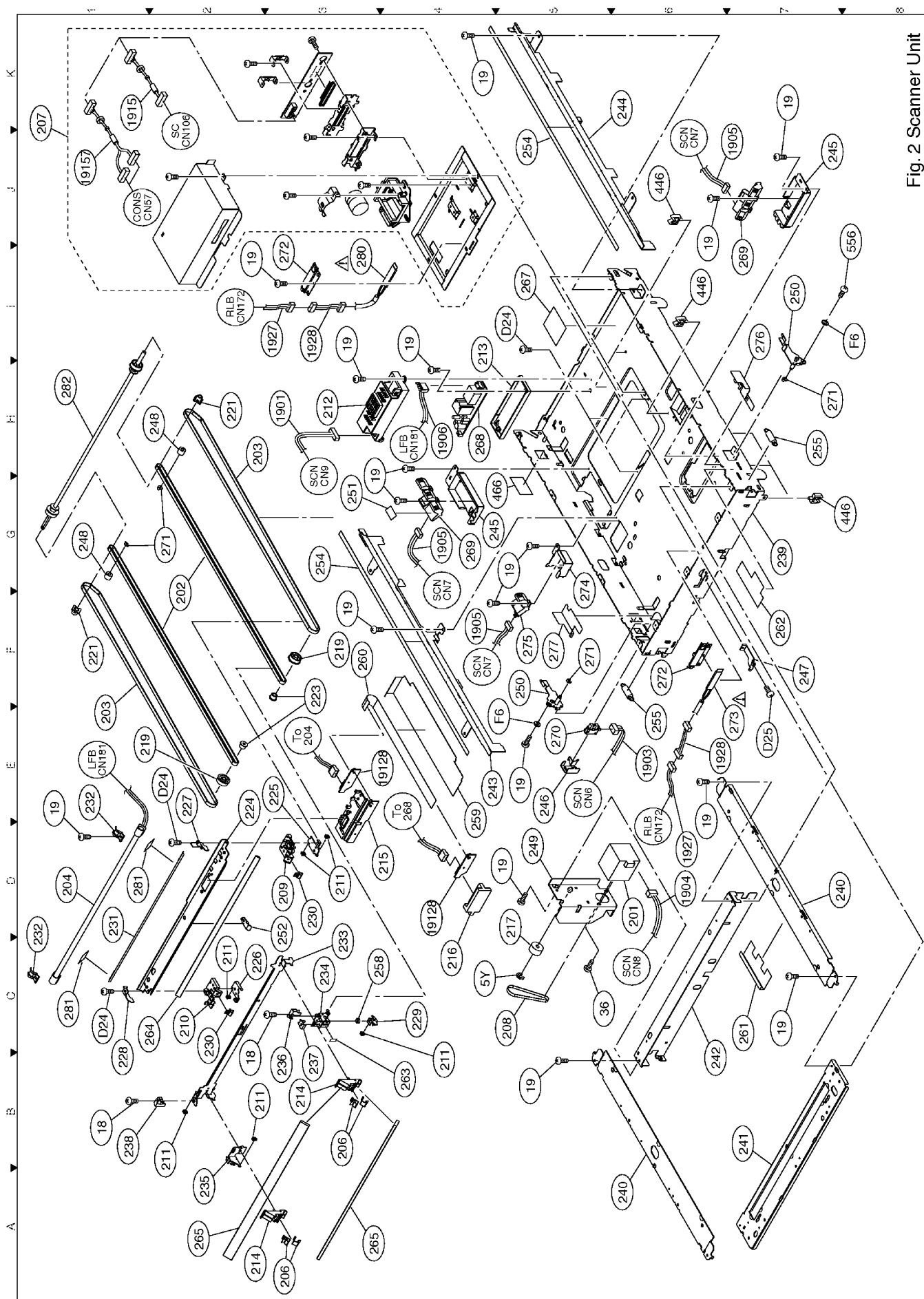


Fig.2 Scanner Unit

## 7.4. Electrical Parts

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
		DZNK002797	Label 1, Line 1		
		DZNK003056	Label 1, Line 1 (AW)		
301		DZNK003084	Label 1, Line 1 (AK)		For Fax Communication Kit
		DZNK003085	Label 1, Line 1 (AG)	N	
		DZNK003100	Label 1, Line 1 (AB)		
302		DZNK002800	Label 2, G3 Port	N	For 2nd G3 Fax Communication Kit
305		DZNK002858	Label 3, IAN Port	N	For Internet Fax Kit
306		DZJF000462	Guide 2, Memory Card	C	
307		DZJH000004	Spacer, Locking	N	
308		DZJH000007	Spacer, Locking	N	
309		DZJH000063	Spacer, Locking	N	
310		DZJH000041	Spacer, Locking	N	
311		DZJH000002	Clamp, Locking Harness	N	
312		DZJK000010	Clip, Insulated Harness	N	
313		DZJB000163	Bracket, Choke	N	
314		DZJA000810	Bracket, CONS	N	For DP-3000
417		DZJB000749	Cover, Rear	N	
421		DZJB000156	Bracket, NOP	N	
424		DZJB000159	Bracket, SC	N	
425		DZJB000751	Bracket, FH	N	
430		DZJB000166	Bracket, LANC	N	
431		DZJB000167	Bracket, Heater	N	
433		DZJB000165	Bracket, OP IVPS	N	
445		DZJK000005	Clamp, Harness	N	
1975		DZFP000856	Harness, Finisher	N	







## 7.5. Frame Parts

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
A	401	DZJB000139	Frame, Center	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1





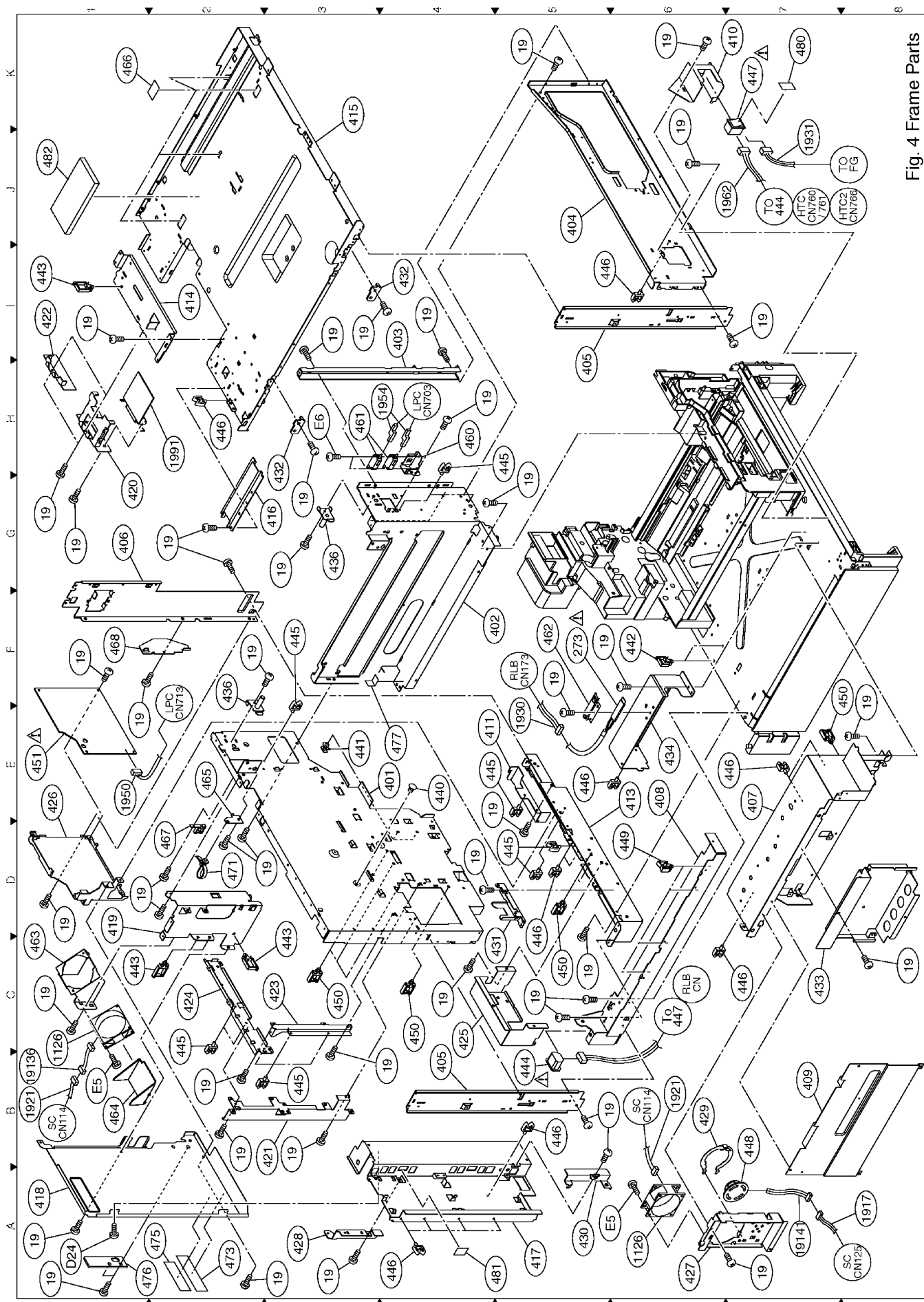


Fig. 4 Frame Parts

## 7.6. Cover Assembly

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	501	DZMA002394	Cover, Platen	N	
	502	DZMH000013	Hinge, Platen	C	
	503	DZJM000428	Pad, Scanning	N	
	504	DZMA002390	Cover, Rear Platen	N	
	505	DZJA000732	Bracket, Hinge	N	
	506	DZMC000701	Cover, Lower Rear	N	
	507	DZMA002387	Cover, Right Rear	N	
	508	DZJM000437	Actuator, AG	N	
	509	DZJM000436	Actuator, OP	N	
	510	DZJC000700	Cover, CN	N	
	511	DZJB000151	Bracket, CN	N	
	512	DZKN000205	Coil Spring, OP	N	
	513	DZJM000438	Bracket, OPSN	N	
	514	DZMA002388	Cover, Left Platen	N	
	515	DZJA000646	Bracket, SCN PCB	N	
	516	DZMA002389	Cover, Right Platen	N	
	517	DZMA002386	Cover, Left Rear	N	
	518	DZJB000153	Platen Frame, Lock 2	N	
	519	DZJB000152	Platen Frame, Lock 1	N	
	523	DZMA002393	Cover, Right Side	N	
	524	DZMA002398	Cover, s Inner	N	
	525	DZMA002645	Cover, Right Front	N	
	526	DZMA002396	Cover, Lower Control Panel	N	
	527	DZJC000262	Angle, Door Cover	N	
		DZMA002941			For DP-3000
	528	DZMA002391	Cover, Front	N	For DP-2500
		DZMA002511			For DP-2000
	530	DZMA002392	Cover, Blind	N	
	531	DZJA000187	Bracket, Magnet	C	
	532	DZGD000001	Magnet	C	
	533	DZJB000186	Plate, M	N	
	534	DZMA002383	Cover, Front AC SW	N	
	535	DZMA002385	Cover, Left Side	N	
	536	DZKQ000050	Spring, Door Cover	N	
	537	DZJB0000738	Cradle, Upper	C	
		DZMA000260			
	538	DZJB0000740	Cradle, Lower	C	
		DZMA000269			
	539	DZJA000733	Bracket 1, Mounting	N	
	540	DZJA000734	Bracket 2, Mounting	N	
	541	DZJA000773	Bracket 3, Mounting	N	
	542	DZDU000025	Handset	C	
		DZJU000027			
	543	DZJE000812	Rdging, A	N	
	544	DZJB000813	Rdging, B	N	
	545	DZJE000814	Rdging, C	N	
	546	FFPQB0052	Tray, Exit 2	C	
	547	FFPQB0060	Tray, Exit 3	C	
	548	DZMC000708	Cover, Outer	N	
	549	DZGT000025	Brush, Discharge	N	
	550	DZIM000059	Bearing, P5L18	C	
	551	DZKR000021	Wire Spring, Turn	N	
	552	DZJA000736	Bracket, Outer Roller B	N	
	553	DZLA0000224	Roller, Exit	N	
	554	DZJA000735	Bracket, Outer Tray	N	
	555	DZKN000195	Coil Spring, Arm 2	N	
	556	DZPB000031	Screw, Shoulder	N	



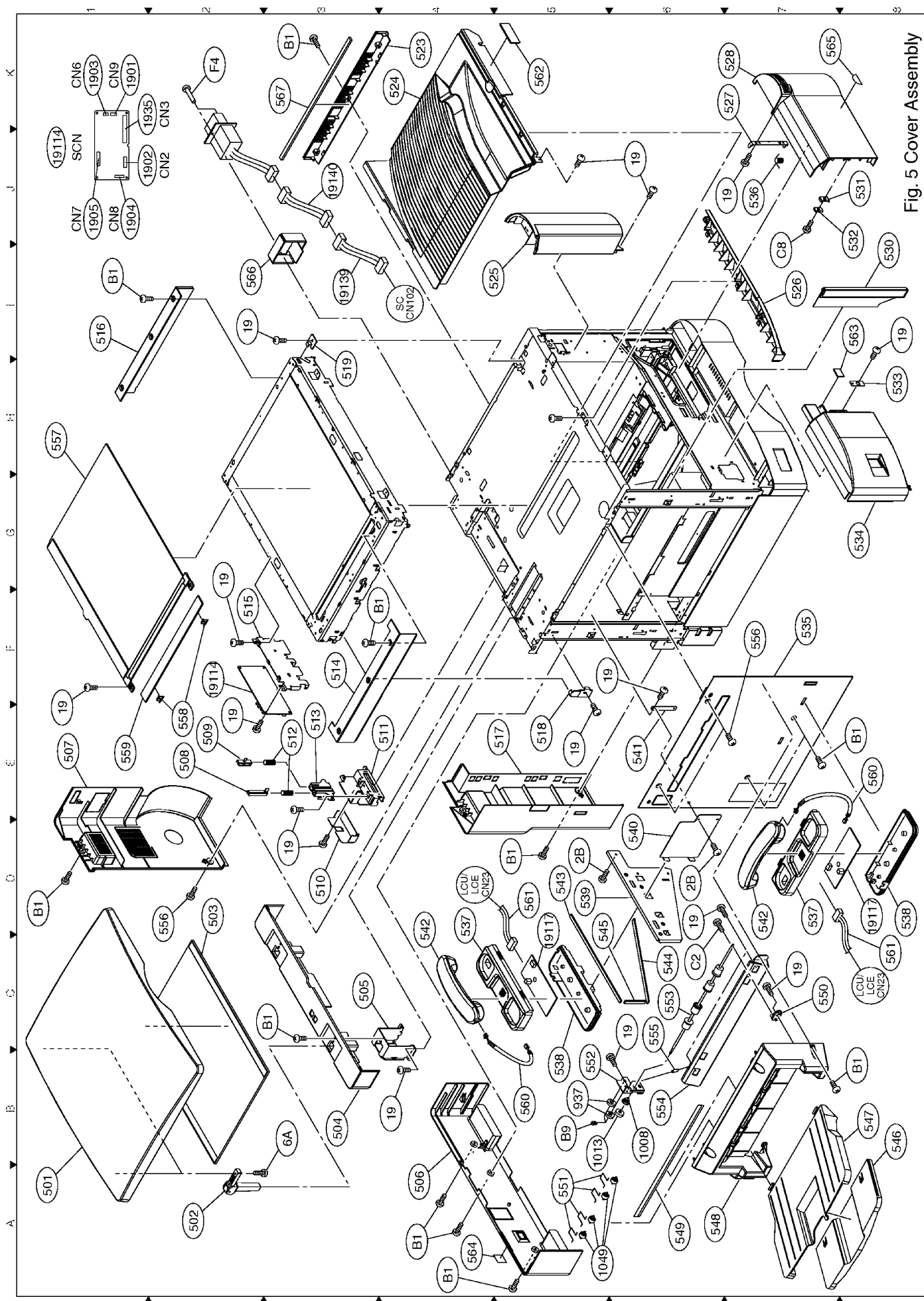


Fig. 5 Cover Assembly



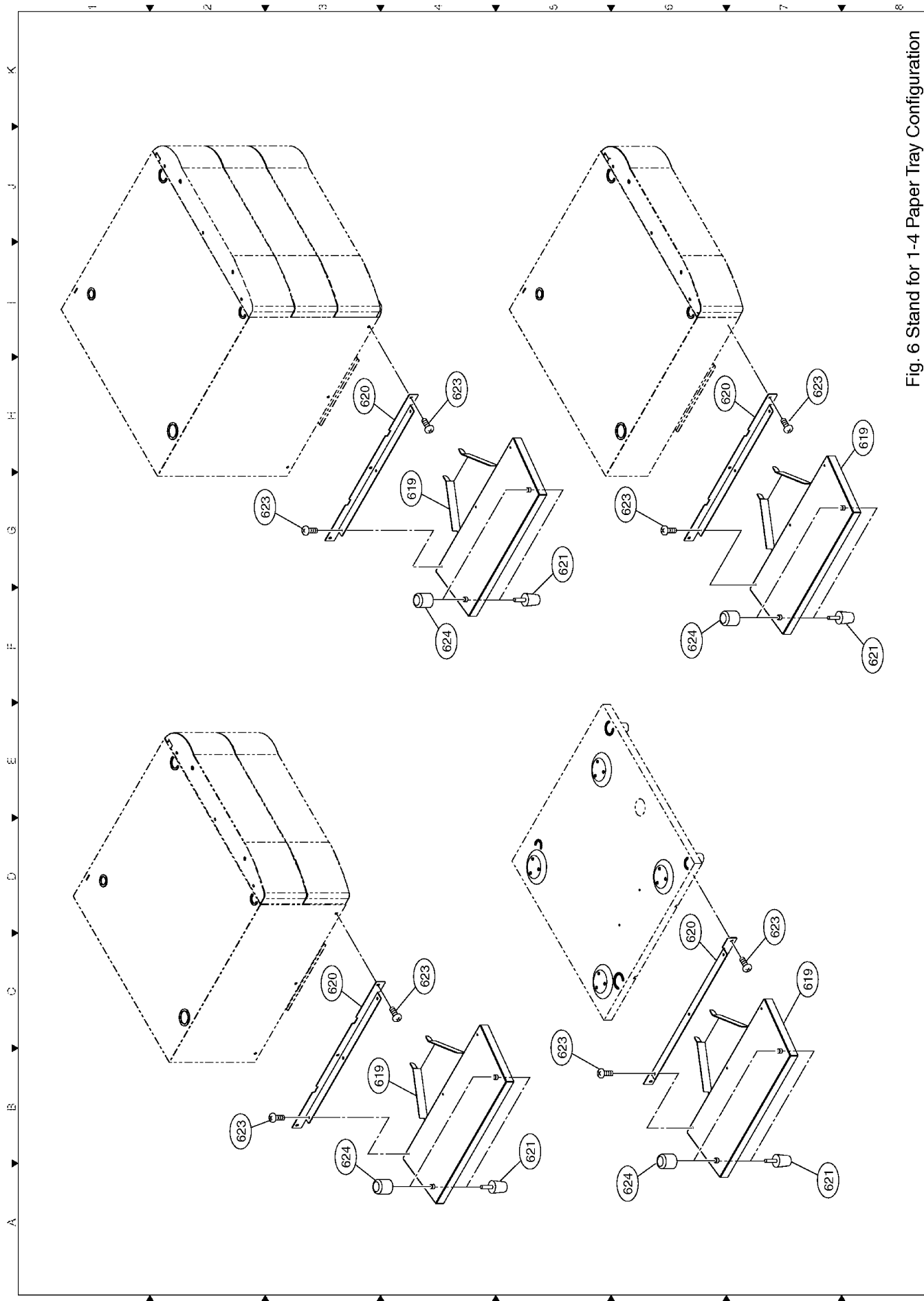


Fig. 6 Stand for 1-4 Paper Tray Configuration

## 7.8. Cartridge Unit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	701	DZLM000049	Bushing, Bias Charge Roller	C	
	702	DZKN000080	Coil Spring, Bushing	C	PM
	703	DZLA000129	Roller, Bias Charge	N	
	704	DZJB000138	Chamber, Waste Toner	N	
	705	DZHFO03558	Paddle Assy	N	
	706	DZJMG00370	Shaft, Screw	N	
	707	DZLMO00097	Holder, OPC Drum Shaft	N	
	708	DZLMG00098	Bushing, Rear OPC	N	
	709	DZLN000004	Joint, Paddle	N	
	710	DZJMG00371	Pipe, WTB	N	
	711	DZJMG00372	Cap, WTB	N	
	712	DZJC000253	Holder, Bias Charge Roller	N	
	713	DZMGO00030	Latch, OPC Drum	N	
	714	DZJR000744	Cover, OPC Drum	N	
	715	DZLMG00099	Shaft, OPC Drum	N	
	716	DZKFP00191	Blade, Bias Charge	N	
	717	DZHPF004067	Blade Assembly, Cleaning	N	PM For DP-2000/2500
	718	DQ-H030B	Drum, OPC	N	PM For DP-3000
		DQ-H045B	Coil Spring, Cap	N	
	719	DZKN000178	Wire Arm, OPC Drum Cover	N	
	720	DZKG000051	Coil Spring, OPC Drum Cover	N	
	721	DZKQ000025	Felt, Front Cleaning	N	PM
	722	DZJPO00023	Felt, Rear Cleaning	N	PM
	723	DZJM000375	Sheet, Scoop	N	PM
	724	DZJM000376	Sponge, Paddle	N	
	725	DZJM000377	Sponge, Pipe	N	
	726	DZJM000378	Catcher, Mag Roller	C	
	727	DZJM000263	Coil Spring, Mag Roller	C	
	728	DZHM000165	Base Assembly, Process Unit	N	PM
	729	DZHP003564	Roller, Gap	N	
	730	DZLMG00100	Bushing, SR	N	
	731	DZLN000006	Joint, SR	N	
	732	DZLN000102	Bushing	N	
	733	DZLN000005	Joint, Mag Roller	N	PM
	734	DZLN000010	Joint, Agitator	N	
	735	DZJM000387	Support, Front OPC	N	
	736	DZJG000008	Retainer, Mag Roller	N	
	737	DZLF000317	Gear, C32 Drive	N	
	738	DZKP000192	Plate, D1 Charge	N	
	739	DZKP000193	Plate, D2 Charge	N	
	740	DZKP000194	Plate, D3 Charge	N	
	741	DZKG000125	Stopper, TC Gear	N	PM
	742	DZHP003567	Blade, Dr	N	
	743	DZKN000210	Joint, Coil Spring	N	
	744	DZLN000008	Joint, Development	N	
	745	DZLF000365	F Gear, C46	N	
	746	DZJM000451	Seal, Shutter	N	
	747	DZJM000452	Seal, Sub Shutter	N	
	748	DZJFO00437	Guide, Right TC	N	PM
	749	DZLA000196	Roller, Mag	N	
	750	DZJM000395	Sponge, Dr	N	
	751	DZJM000396	Sponge, Front Dr	N	
	752	DZJM000397	Sponge, Rear Dr	N	
	753	DZJPF000024	Felt, Development	N	PM







7.9. Paper Tray

Ref Safety Mark	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	YA	YB	YC	YE	YF	YG	YH	YJ	YK	YL	YM	YN	YR	YS	YT	YU	YV	YW	YX	YY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	801	DZJF000432	Base, Paper Tray	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	802	DZJE000767	Cover, Paper Tray 2	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		DZMC000696	Cover, Paper Tray	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	803	DZJF000412	Paper Guide, Front	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	804	DZJF000413	Paper Guide, Rear	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	805	DZJF000414	Paper Guide, Left	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	806	DZLA000198	Roller, Paper Tray	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	808	DZKM000021	Plate, Bottom	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	809	DZJL000116	Plate, Lift	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	810	DZKG000117	Shaft, Arm	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

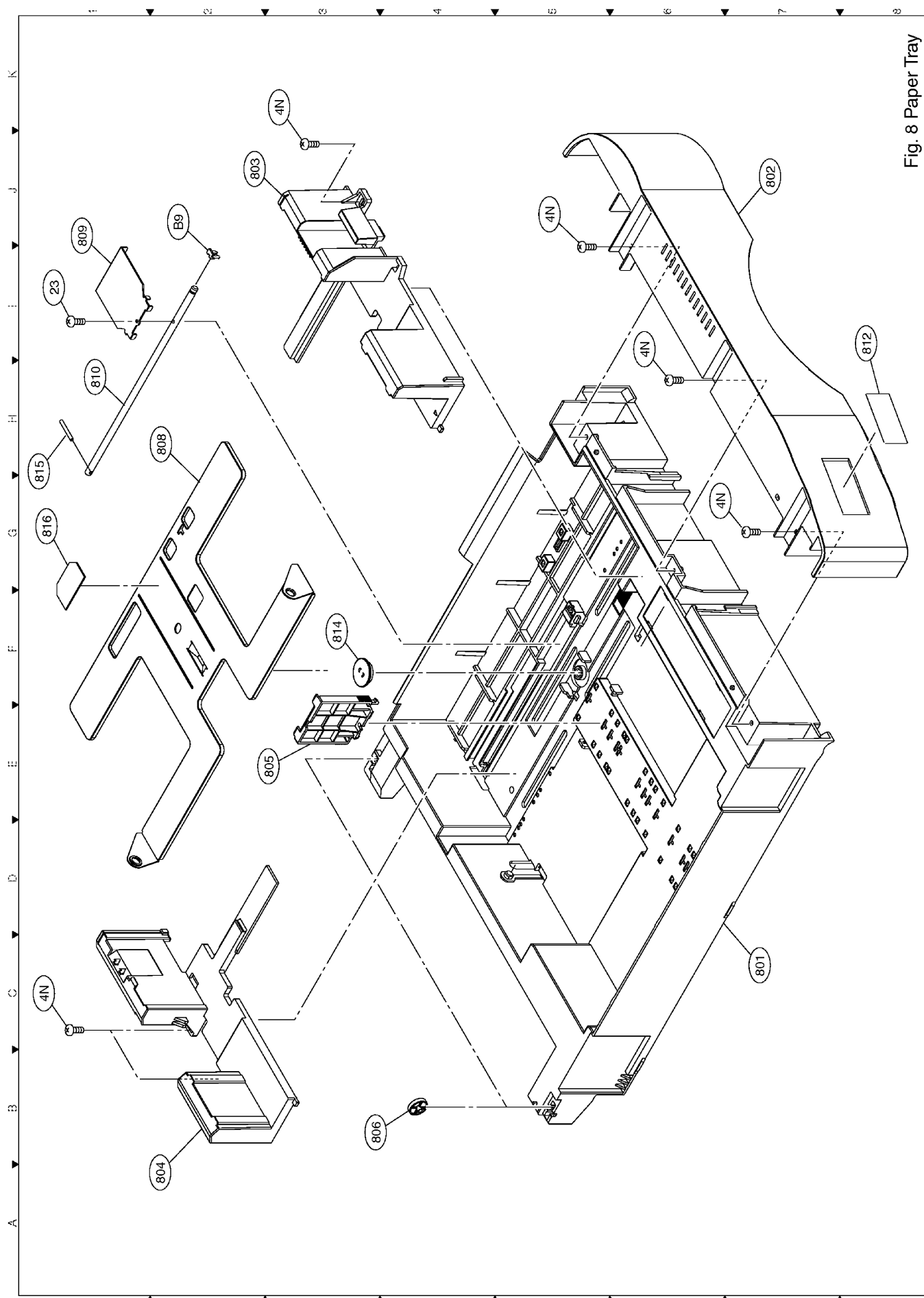


Fig. 8 Paper Tray

## 7.10. Drive Unit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	901	DNQL6D25R40A	Printer Motor	N	For DF-2000/2500
	902	DZLF000337	Gear, D52R13	N	
	903	DZLF000338	Gear, D60E30	N	
	904	DZLF000339	Gear, E34	N	
	905	DZLF000340	Gear, E32	N	
	906	DZLF000346	Gear, E60	N	
	907	DZLF000343	Gear, E37	N	
	908	DZLF000031	Gear, E29	C	
	910	DZLF000345	Gear, E23	N	
	911	DZLF000197	Gear, E25R25	C	
	912	DZLF000344	Gear, E42B21	N	
	913	DZKK000053	Arm, Gear	N	
	914	DZLM000117	Bearing	N	
	915	DZKL000026	Lever, Gear	N	
	916	DZKL000025	Plate, Drive Connection Arm	N	
	917	DZXK000189	Arm, Coil Spring	N	
	918	DZXK000209	Plate, OPC Drum Ground	N	
	919	DZJA000706	Bracket, Printer Motor	N	
	920	DZKG00116	Shaft, OPC	N	
	921	DZJB000179	Flange, Fly Wheel	N	
	922	DZLL000002	Fly Wheel	N	
	924	DZPG000012	Pin	N	
	925	DZLF000353	Gear, B60	N	
	926	DZXK000191	Coil Spring, OPC	N	
	927	DZLN000007	Joint, OPC	N	
	928	DZXN000190	Coil Spring, Development	N	
	929	DZLF000347	Gear, B39	N	
	930	DZLF000348	Gear, B58	N	
	931	DZLF000351	Gear, B22	N	
	932	DZLF000349	Gear, B42B21	N	
	933	DZLF000350	Gear, B40	N	
	934	DZLF000352	Gear, B32	N	
	935	DZJA000707	Bracket, Gear	N	
	936	DZLF000355	Gear, E29	N	
	937	DZLF000342	Gear, E20	N	
	938	DZXN000206	Spacer, Gear	N	
	939	DZJA000708	Bracket 1, Gear	N	
	940	DZLF000341	Gear, D40E20	N	
	941	DZLF000354	Gear, E25	N	
	942	DZTT000039	Ring, Snap	N	
	944	DZLF000383	Gear, B30B15	N	
	945	DZLF000384	Gear, B40	N	
	946	DZLM000118	Bushing, Discharge	N	
	947	DZJM000506	Film, Bracket	N	
	950	DZGA000009	Clutch, OPC	N	
	951	DZJA000812	Stopper, Clutch	N	
	952	DZFA000065	Screw	N	
	953	DZJH000083	Washer	N	
	271	FFPRJ0041	Ring, Snap	N	
	1946	DZF0000834	Harness, DC Motor	N	
	19	XTP3+8J	Screw	C	
	23	XYN3+F8	Screw	C	
	B9	DZJM000171	Ring, snap	C	

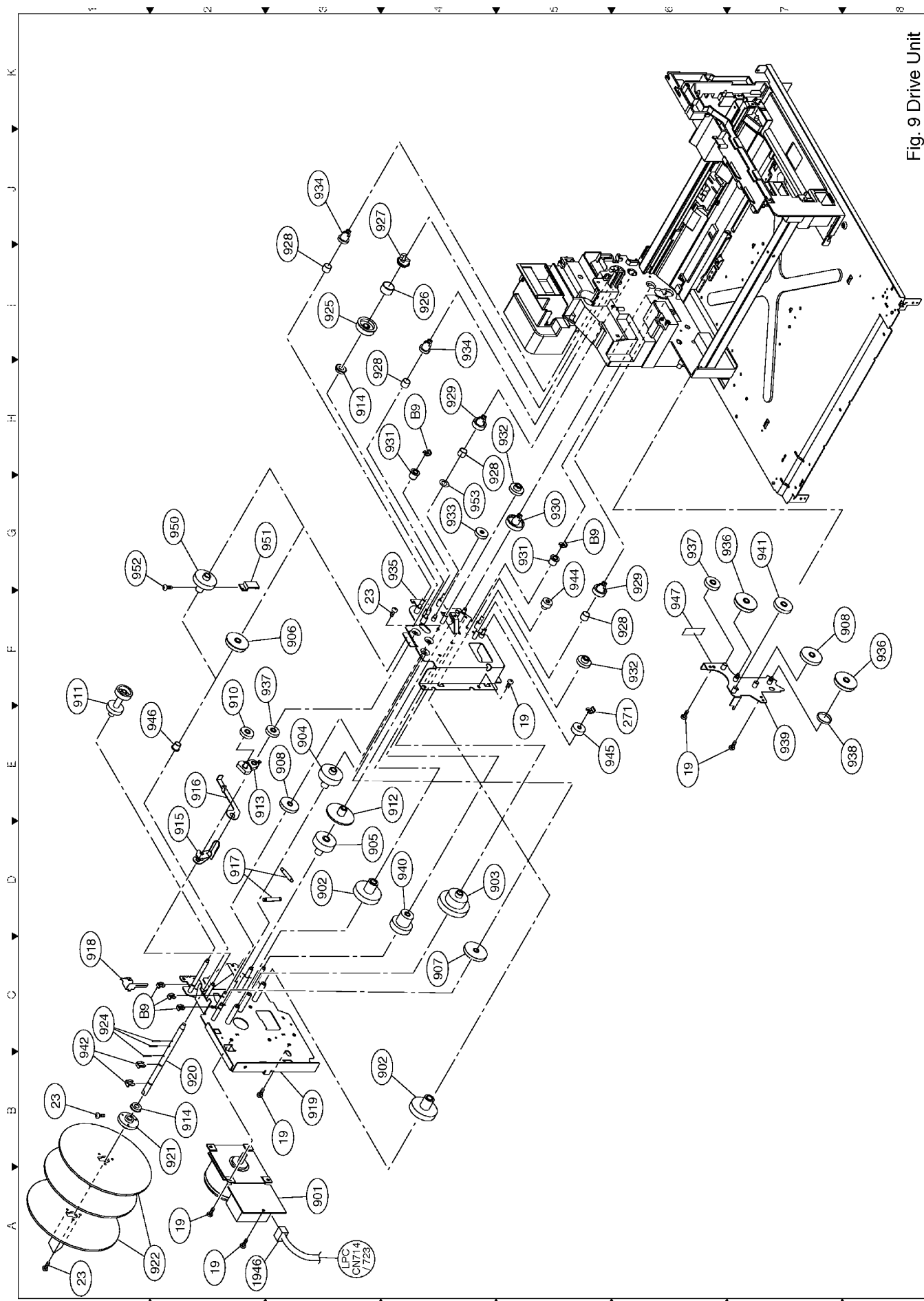


Fig. 9 Drive Unit



Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	BE	E	YA	YB	YC	YE	YF	YG	YH	YJ	YK	YN	YR	YS	YT	YU	YV	YW	YX	YY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	1058	DZHP003847	Fuser Unit	N	For DP-2000/2500	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

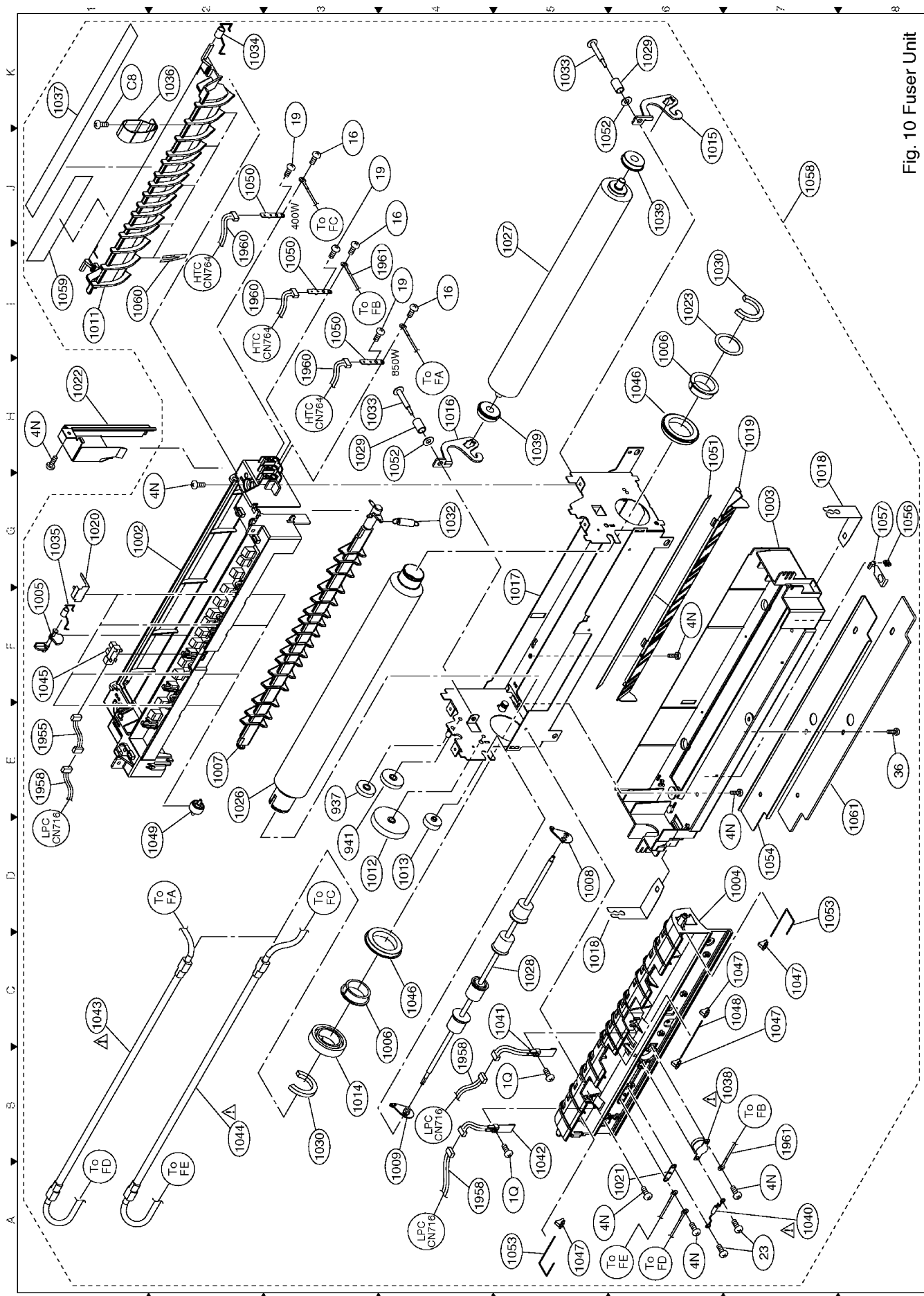


Fig. 10 Fuser Unit









### 7.13. Paper Transportation



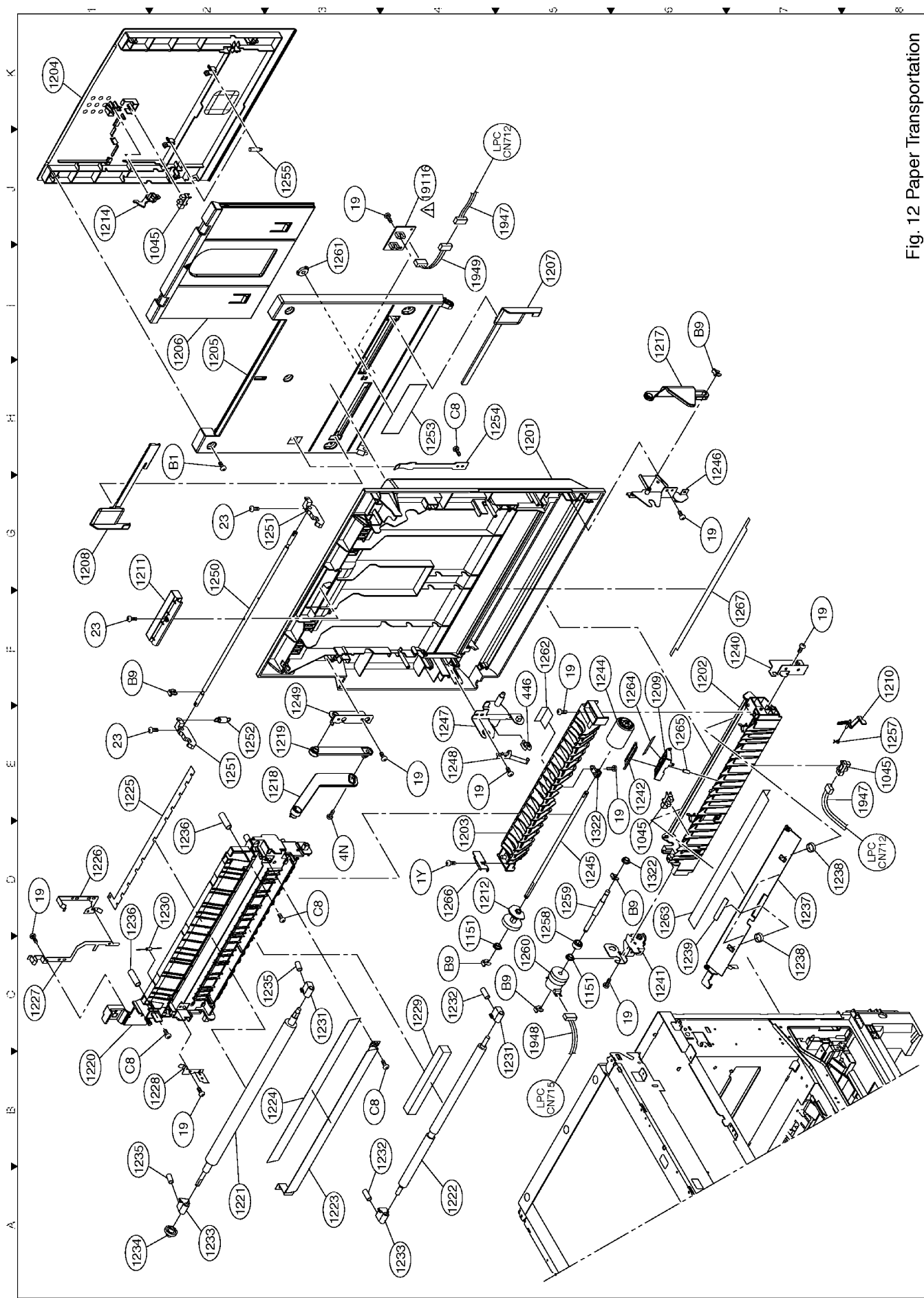


Fig. 12 Paper Transportation

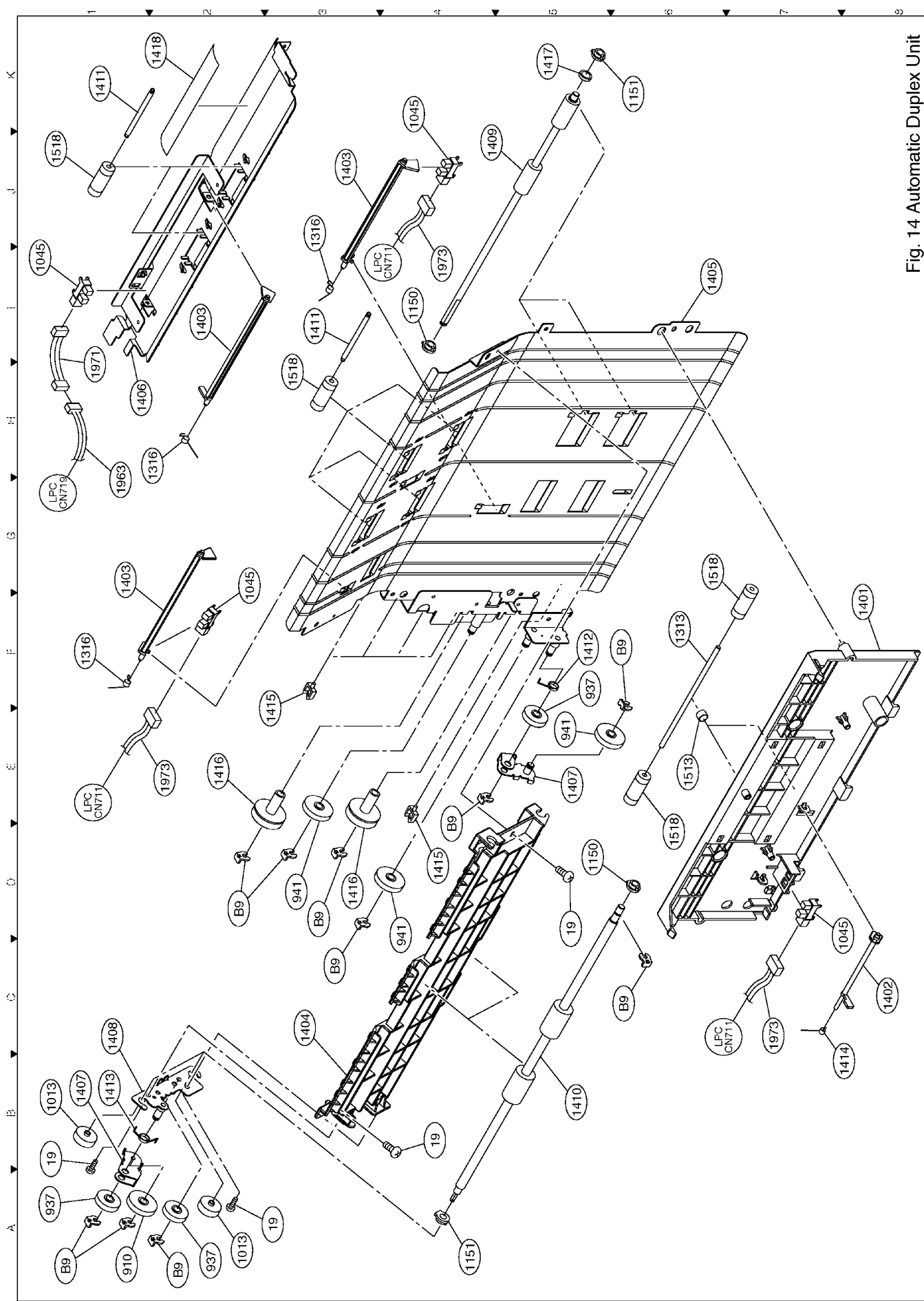






### 7.15. Automatic Duplex Unit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	1401	DZJR000774	Guide, Transport	N	
	1402	DZHC000112	Actuator, A	N	
	1403	DZHC000111	Actuator, B	N	
	1404	DZJR000773	Guide, Duplex	N	
	1405	DZJF000428	Frame, Duplex	N	
	1406	DZJF000429	Guide, Top Duplex	N	
	1407	DZJA000717	Bracket, Gear	N	
	1408	DZJA000720	Bracket, Gear 2	N	
	1409	DZLA000218	Roller, Drive	N	PM
	1410	DZKNG00220	Roller, Pinch	N	PM
	1411	DZLAK000200	Spring, Pinch	N	
	1412	DZKQ000038	Spring, Gear	N	
	1413	DZKQ000040	Spring, Gear 2	N	
	1414	DZKQ000041	Spring, Actuator 2	N	
	1415	DZJK000042	Clamp, Harness	N	
	1416	DZLF000205	Gear, E27 Drive	C	
	1417	DZPR000017	Washer, Polyethylene	N	
	1418	DZNR000293	Label, High Temperature	N	
	910	DZLF000345	Gear, E23	N	
	937	DZLF000342	Gear, E20	N	
	941	DZLF000354	Gear, E25	N	
	1013	DZLF000357	Gear, E18 Drive	N	
	1045	DZALG000072	Sensor	N	
	1150	DZLMG000006	Bushing, P6L5	C	
	1151	DZLMG000052	Bushing, P6L5 Conductive	C	
	1313	DZKG000121	Shaft, Roller	N	
	1316	DZKN000202	Spring, Actuator	N	
	1513	DZKN000197	Spring, Roller	N	
	1518	DZLA000229	Roller, Pinch	N	
	1963	DZF0000854	Harness 1, Dual Path Extension	N	
	1971	DZFP000835	Harness, Duplex SNSI	N	
	1973	DZFP000853	Harness, Duplex	N	
	19	XTB3+8J	Screw	C	
	B9	DZJM000171	Ring, Snap	C	



7.16. Dual-Path Exit Guide Unit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	1501	DZJF000426	Guide, Paper Exit A	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

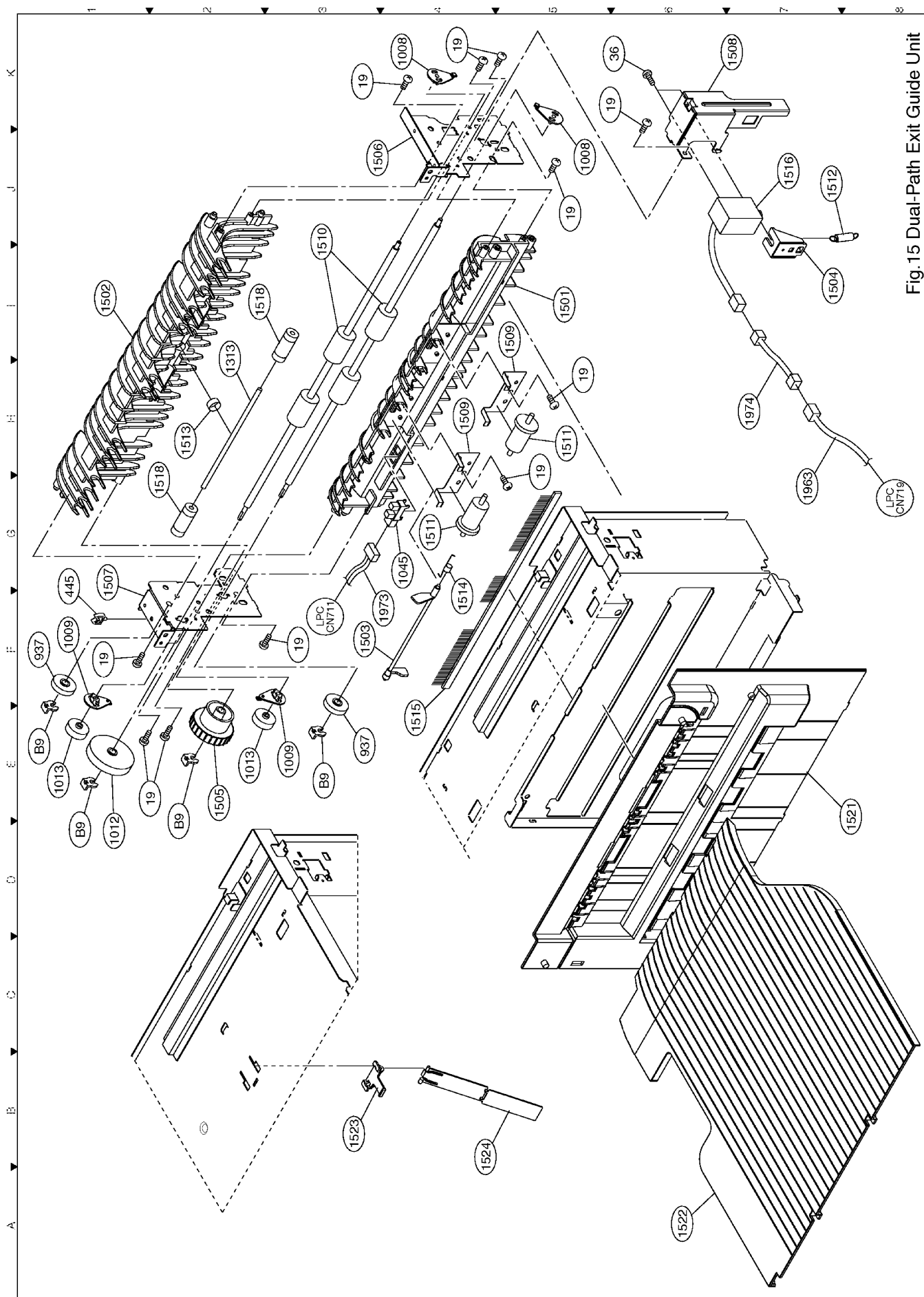


Fig.15 Dual-Path Exit Guide Unit

### 7.17. Inverting Automatic Document Feeder (1/3)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	1601	DZMA002337	Cover, ADF Rear	N	
	1602	DZJK000045	Clamp, Harness	N	
	1604	DZMA002341	Tray, ADF Input	N	
	1604	DZMA002474	Tray, ADF Input	N	
	1605	DZMA002347	Original Guide, Rear	N	
	1606	DZMA002345	Original Guide, Front	N	
	1607	DZKQ000012	Spring, Actuator	C	
	1609	DZHCC000057	Actuator, ADF	C	
	1610	DZJM000159	Base, Actuator	C	
	1611	DZJA000699	Bracket, Actuator	N	
	1612	DZMA002348	Rack, Original Guide	N	
	1614	DZLF000077	Gear, D14	C	
	1616	DZMA002343	Cover, ADF Tray Bottom	N	
	1617	DZML000355	Tray, Sub	N	
	1622	DZJA000724	Hinge, Arm	N	
	1623	DZJA000727	Plate, Reinforcement	N	
	1624	DZKG000124	Shaft, P6	N	
	1625	DZJA000728	Base, Right Hinge (B)	N	
	1626	DZKP000208	Plate Spring, Pinch Roller	N	
	1627	DZLA000080	Roller, Pinch	C	
	1628	DZJA000689	Guide, White Seal	N	
	1629	DZKN000187	Spring, White Seal Guide	N	
	1630	DZJM000367	Seal, White	N	
	1632	DZKN000207	Coil Spring, Ground	N	
	1633	DZMA002333	Base, ADF	N	
	1634	DZJM000429	Bracket, Stamp Solenoid	N	
	1635	DZHP003774	Solenoid, Stamp	C	
	1636	DZHT000027	Stamp Head (Blue)	C	
	1637	DZMA002335	Stamp Head (Pink)	N	
	1638	DZHP001664	Cover, ADF Front	C	
	1653	DZKP000215	Holder, Stamp	N	
	1654	DZFA000064	Plate Spring, ADF Input Tray	N	
	1655	DZJA000730	Thumb Screw	N	
	1656	DZMC000713	Bracket, ADF Mounting	N	
	1657	DZJA000726	Cover, Hinge	N	
	1658	DZJM000449	Stopper, Hinge	N	
	1659	DZJC000289	Film, Hinge	N	
	1660	DZJP000026	Carrier, Sleeve	N	
	1661	DZJC000288	Felt	N	
	1662	DZJM000469	Holder, sleeve	N	
	1663	DZJA000696	Sleeve, Right	N	
	1665	DZJM000475	Bracket, Sensor	N	
	1666	DZJM000494	Slider	N	
	471	DZJG000009	Cover Film, Top	C	
	503	DZJM000428	Spacer	N	
	1045	DZAL000072	Band	N	
	1701	DZLM000007	Pad, Scanning	N	
	1935	DZFP000888	Sensor	N	
	1936	DZFP000973	Bushing, P6L7.4	N	
	1937	DZFP000889	Harness, ADF	N	
	1938	DZFP000890	Harness, AMT	N	
	1939	DZFP000891	Harness, DC 3	N	
	1940	DZFP000892	Harness, CLT	N	
	1941	DZFP000893	Harness, SNS	N	
	1942	DZFP000896	Harness, BLS	N	
	1943	DZFP000906	Harness, APNT	N	



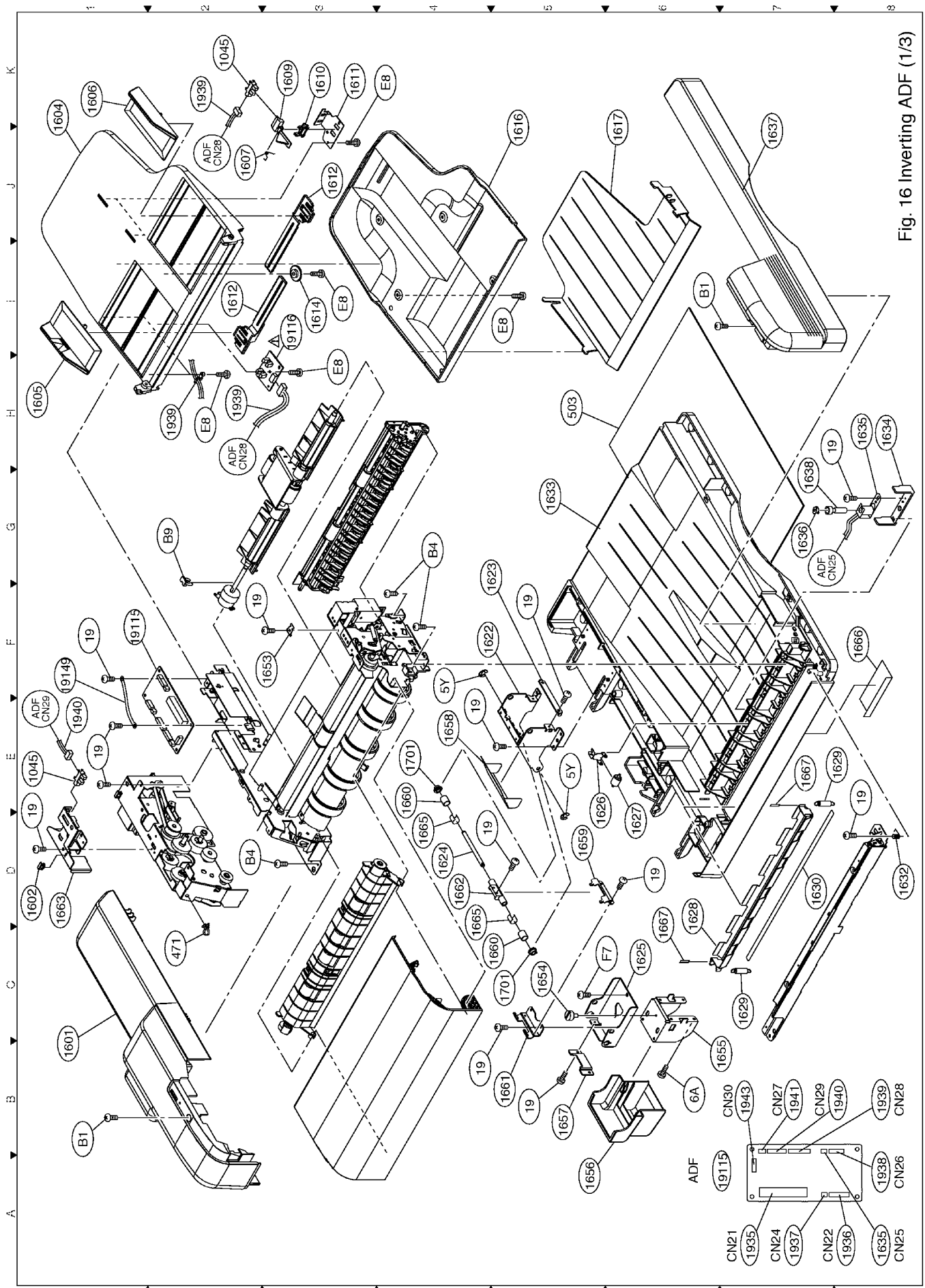


Fig. 16 Inverting ADF (1/3)

### 7.18. Inverting Automatic Document Feeder (2/3)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ
	1701	DZLM000007	Bushing, P6L7.4	C		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																													





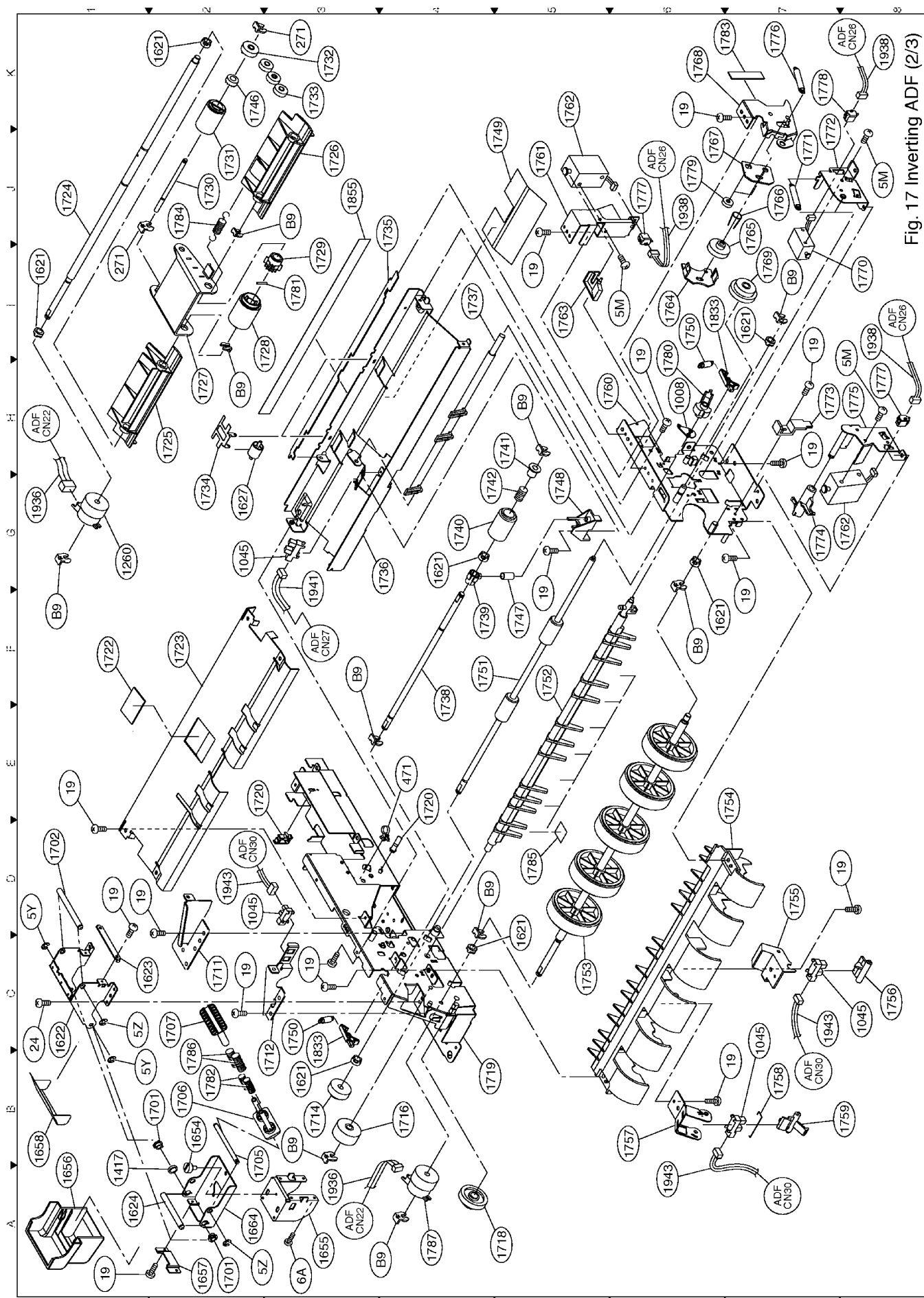


Fig. 17 Inverting ADF (2/3)

### 7.19. Inverting Automatic Document Feeder (3/3)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	1801	DZGG000046	Motor, ADF	N	
	1802	DZJA000095	Bracket, Gear	N	
	1804	DZKG000113	Shaft	N	
	1805	DZLF000331	Gear, E26S35 Drive	N	
	1806	DZLF000283	Gear, E29	C	
	1807	DZLF000333	Gear, E21E27	N	
	1808	DZLF000335	Gear, D24E18	N	
	1809	DZLF000008	Gear, D16	C	
	1810	DZLF000191	Gear, D24	C	
	1811	DZJA000692	Bracket, Motor	N	
	1812	DZLB000013	Pulley	N	
	1814	DZLK000013	Belt, Timing	N	
	1815	DZJA000698	Bracket, Pulley	N	
	1816	DZKG000114	Shaft 1, Drive	N	
	1817	DZKG000115	Shaft 2, Drive	N	
	1819	DZLF000334	Gear, E21 Drive	N	
	1820	DZLF000332	Gear, E18 Drive	N	
	1830	DZJA000675	Bracket, Actuator	N	
	1831	DZMA002329	Cover, ADF	N	
	1832	DZKN000126	Spring, Gear	C	
	1833	DZMG000018	Latch	C	
	1834	DZJA000681	Bracket, Rear ADF Cover	N	
	1835	DZJA000680	Bracket, Front ADF Cover	N	
	1836	DZHCG00102	Actuator 1	N	
	1837	DZKG000108	Shaft, Pinch Roller	N	
	1838	DZLA000211	Roller, Pinch	N	
	1839	DZKF000204	Plate Spring 2, Discharge	N	
	1840	DZJA000677	Plate 1, Adjustment	N	
	1841	DZHC000103	Actuator 2	N	
	1842	DZJM000407	Cover, Sub ADF	N	
	1843	DZKF000200	Plate Spring, Pinch Roller	N	
	1849	DZKP000205	Holder, Pinch Roller	N	
	1850	DZKP000206	Plate Spring, Ground	N	
	1851	DZJA000690	Bracket, Inverting Guide Front	N	
	1852	DZJA000691	Bracket, Inverting Guide Rear	N	
	1853	DZLA000210	Roller, Inverting Feed	N	
	1854	DZMA002339	Cover, ADF Exit	N	
	1855	DZGR000007	Brush, Antistatic	C	
	1856	DZJM000424	Guide, Inverting 2	N	
	1857	DZJM000425	Guide, Duplex 2	N	
	1858	DZJM000423	Guide, Inverting 1	N	
	1859	DZKN000186	Spring, Duplex 2 Guide	N	
	1860	DZJM000426	Lever, Duplex 2 Guide	N	
	1861	DZJM000427	Guide, Upper Feed	N	
	1862	DZJA000688	Guide, Skew	N	
	1863	DZKG000112	Shaft, Drive Pinch	N	
	1864	DZKP000207	Plate Spring, Drive	N	
	1866	DZJF000409	Guide, Sub Top	N	
	1867	DZJM000479	Film, Guide	N	
	1872	DZLA000207	Roller, Drive	N	
	1873	DZJM000405	Guide, Lower Feed	N	
	1875	DZKP000203	Plate spring, Discharge 1	N	
	1876	DZJA000678	Plate, Adjustment 2	N	
	1877	DZKP000201	Plate Spring, Pinch 1	N	
	1878	DZJM000406	Guide, Inverting Feed	N	
	1879	DZKG000110	Shaft, Pinch 2	N	
	1880	DZJM000476	Sponge	N	



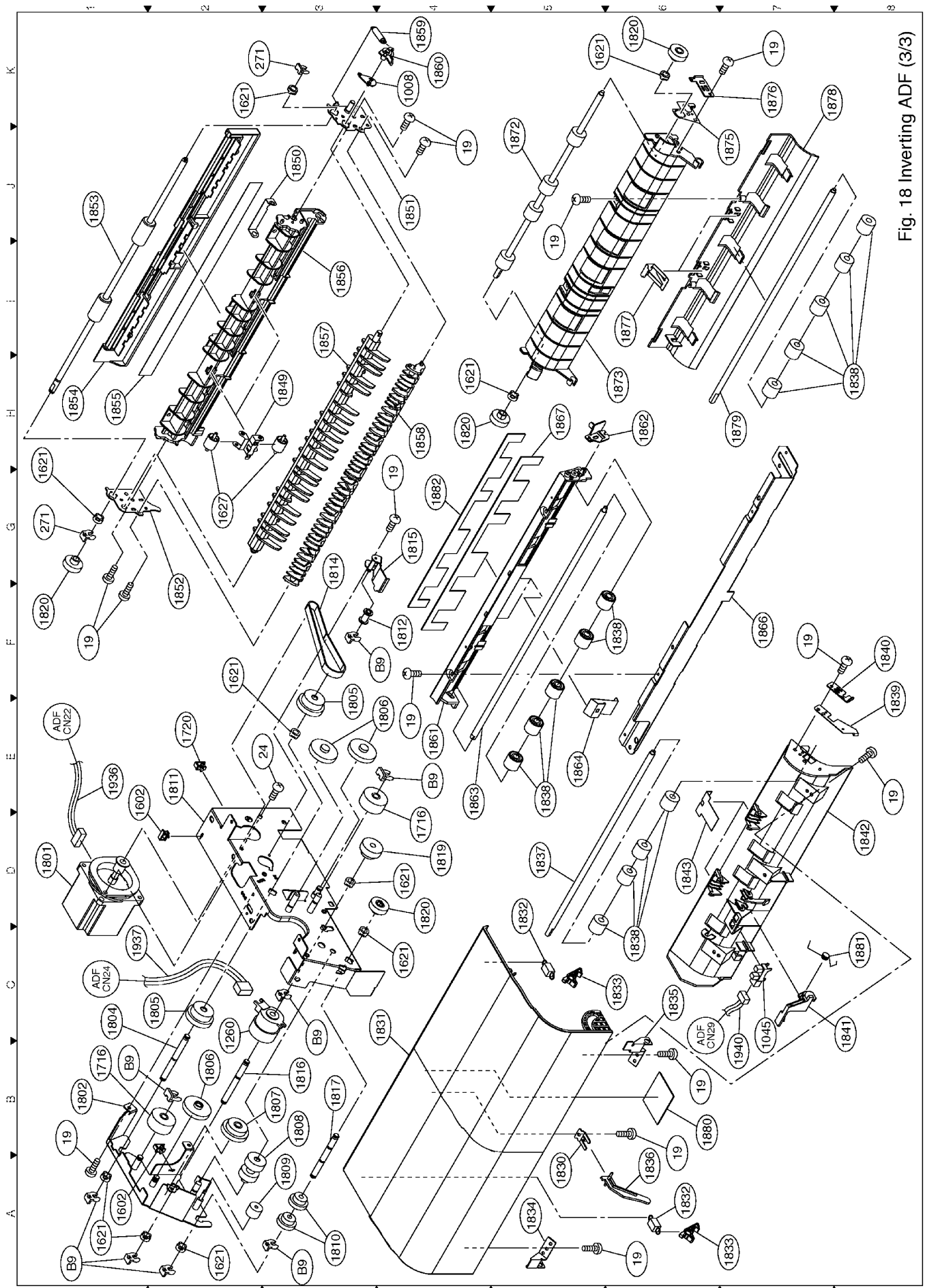


Fig. 18 Inverting ADF (3/3)

## 7.20. PC Boards/ Harnesses

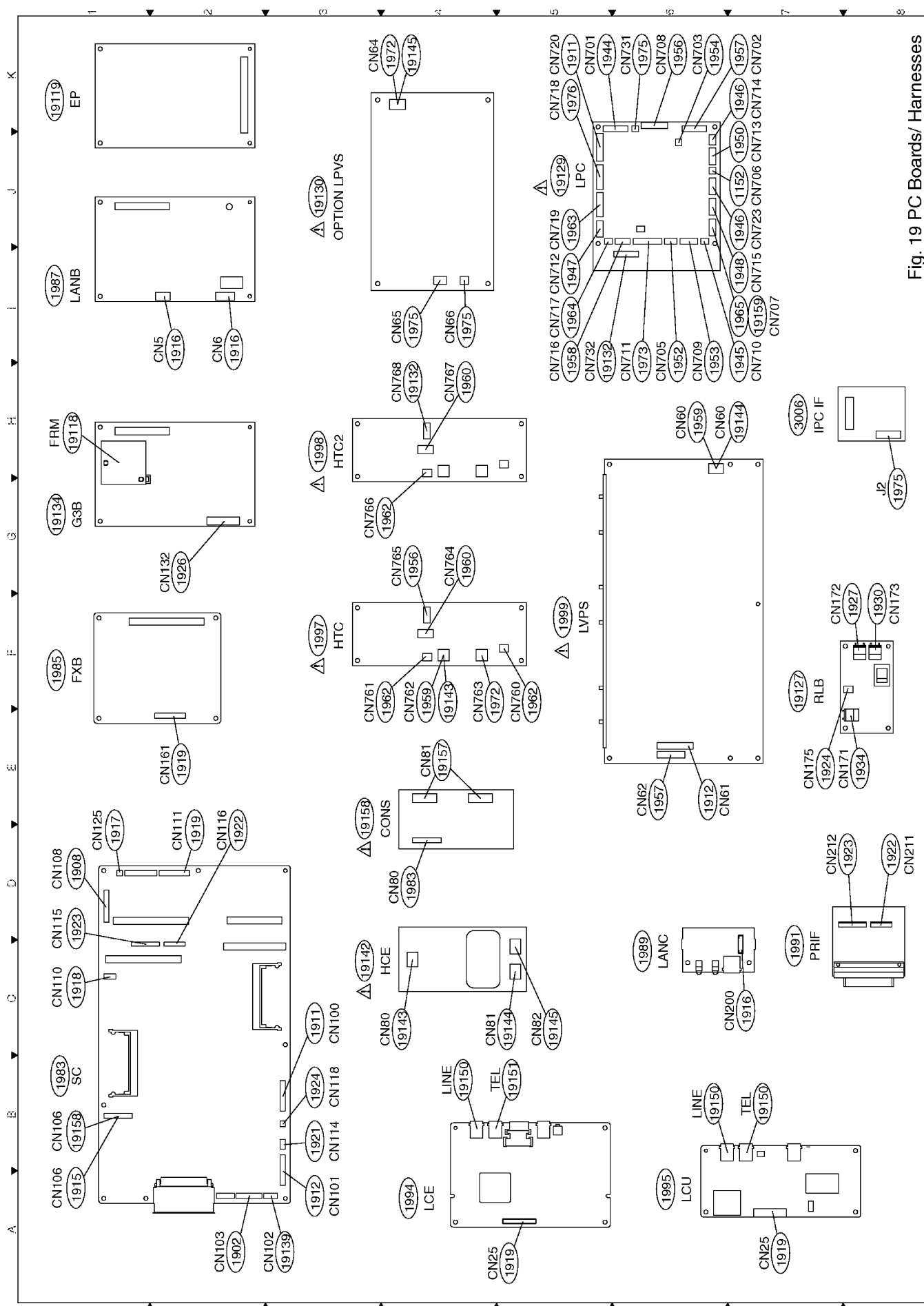
Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	1902	DZFP000866	Harness, SCN	N	
	1908	DZFP000872	Harness, PNL1	N	
	1911	DZFP000875	Harness, PNL	N	
	1912	DZFP000876	Harness, Power	N	
		DZFF000969			
	1915	DZFP000877	Harness, CCD	N	
		DZFF000953			
	1916	DZFP000898	Harness, LAMB-LANC	N	
	1917	DZFP000911	Harness, SPK 2	N	
	1918	DZFP000879	Harness, LSU	N	
	1919	DZFP000880			
		DZFP000956	Harness, LCU 1	N	
	1921	DZFP000882	Harness, Fan	N	
	1922	DZFP000883	Harness, PRIF (18-pin)	N	
	1923	DZFP000884	Harness, PRIF (25-pin)	N	
	1924	DZFP001007			
		DZFP000968	Harness, RLB	N	
	1926	DZFP000887			
		DZFP000957	Harness, G3B	N	
	1927	DZFP000896	Harness, Heater 2	N	
	1930	DZFP000920	Harness, Heater 3	N	
	1934	DZFP000914	Harness, RLB/Power	N	
	1944	DZFP000832	Harness, LSU	N	
	1945	DZFP000833	Harness, CSTSEN 1	N	
	1946	DZFP000834	Harness, DC Motor	N	
	1947	DZFP000897	Harness, Multi SNS 1	N	
	1948	DZFP000836	Harness, Clutch	N	
	1950	DZFP000838	Harness, HVPS	N	
	1952	DZFP000840	Harness, Toner/Registration	N	
	1953	DZFP000841	Harness, Paper/UFRER	N	
	1954	DZFP000842	Harness, ILS	N	
	1956	DZFP000844	Harness, HTC/ILS/COMT	N	
	1957	DZFP000845	Harness, LPC-LVPS	N	
	1958	DZFP000846	Harness, EXTSEN/THERM Relay	N	
	1959	DZFP000847	Harness, LVPS	N	
	1960	DZFP000849	Harness, Heater 1	N	
	1962	DZFP000852	Harness, Inlet-ACSW	N	
	1963	DZFP000854	Harness 1, Dual Path Extension	N	
	1964	DZFP000902			
		DZFP000972	Harness, Fan	N	
	1965	DZFP000859	Harness, CST2	N	For DF-2000/2500
		DZFP000999			For DF-3000
	1972	DZFP000848	Harness, LVPS Op	N	
	1973	DZFP000853	Harness, Duplex	N	
	1975	DZFP000856	Harness, Finisher	N	
	1976	DZFP000857	Harness, EXFD Extension	N	











### 7.21. 1-Bin Finisher (1/9)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	2001	DZHP003910	Slide Rail	N	
	2002	DZJR000803	Cover, Finisher Front Mount	N	
	2003	DZJR000804	Cover, Finisher Rear Mount	N	
	2004	DZJR000805	Cover, Finisher Center Mount	N	
	2005	DZJR000806	Cover, Finisher Lower Mount	N	
	2006	DZJR000807	Cap, Finisher Locking Mount	N	
	2007	DZJA000739	Latch Catcher	N	
	2008	DZMH000014	Frame, Crossmember	N	
	2009	DZJA000744	Frame, Front	N	
	2010	DZJA000745	Frame, Rear	N	
	2011	DZJA000746	Bracket, Front Mounting	N	
	2012	DZJA000747	Bracket, Rear Mounting	N	
	2015	DZFA000028	Screw	N	
	2016	DZPA000029	Screw	N	
	2017	DZPA000030	Screw	N	
	2018	DZPA000031	Screw	N	
	2019	DZPA000032	Screw	N	
	2059	DZPK000018	Washer	N	
	2063	DZMA002395	Bracket, Finisher Protective	N	
	B1	DZPB000007	Screw, Silver	C	

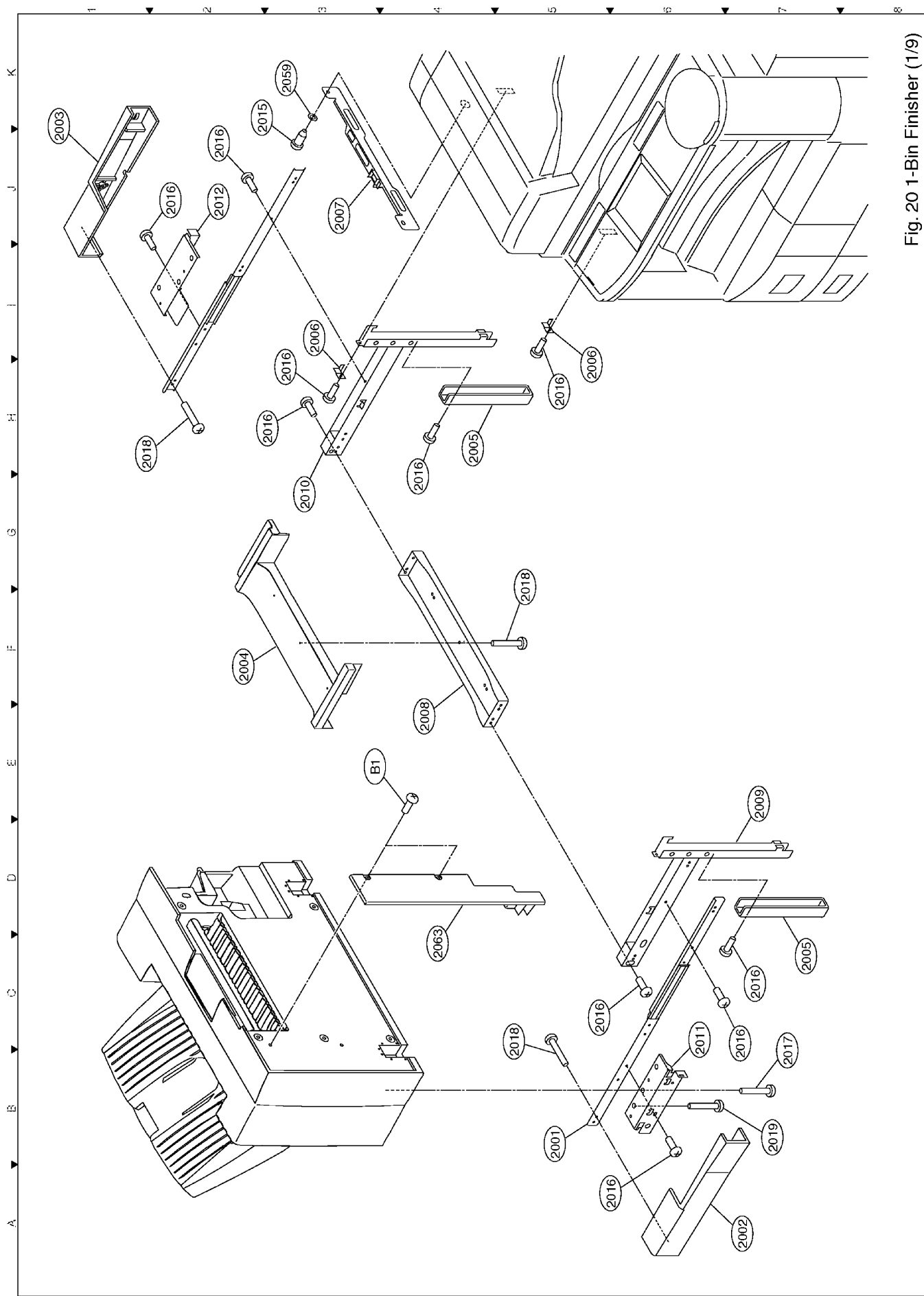


Fig. 20 1-Bin Finisher (1/9)



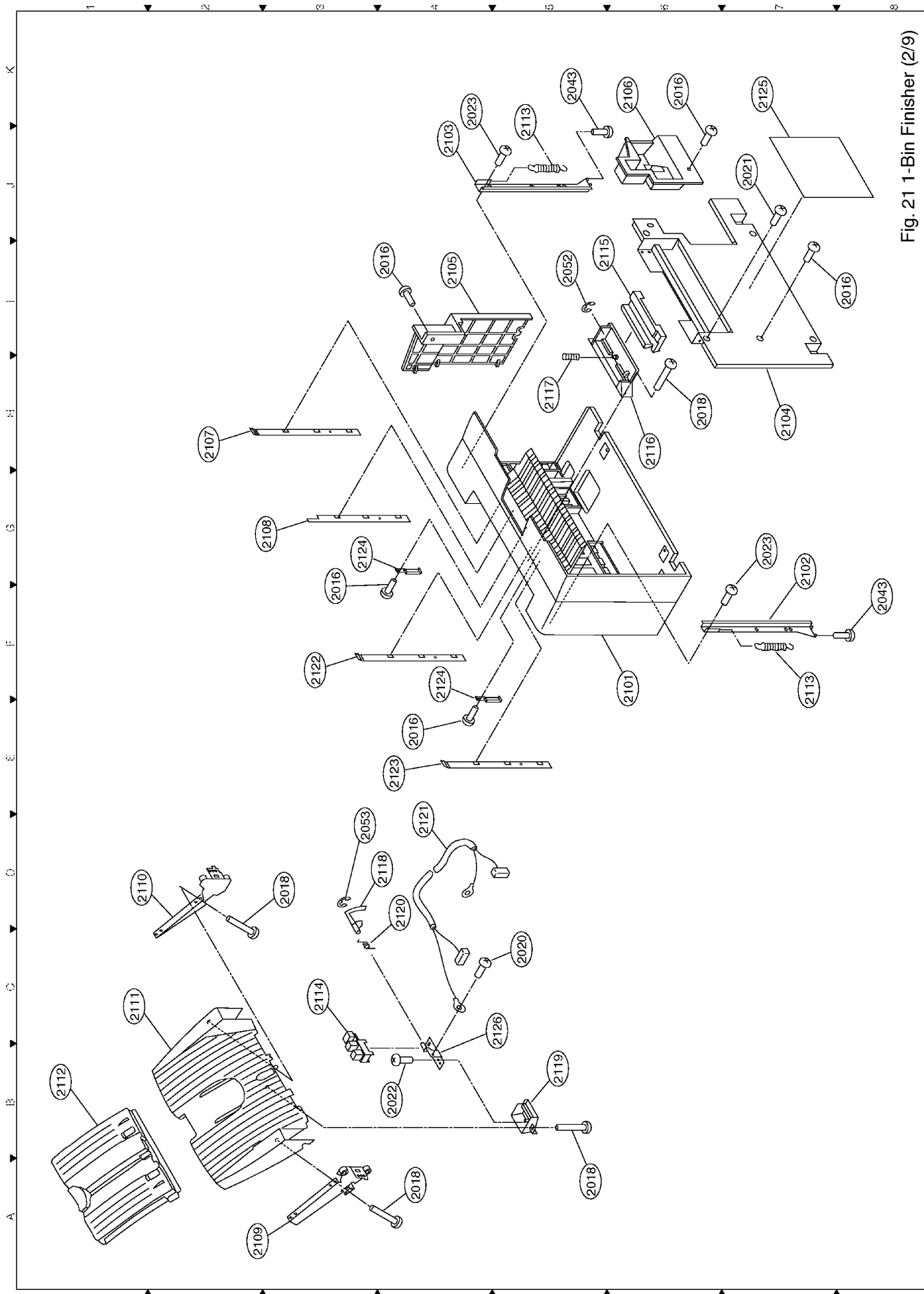


Fig. 21 1-Bin Finisher (2/9)

### 7.23. 1-Bin Finisher (3/9)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	Assembly Data																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
						AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT
	2201	DZKP000217	Holder, Feed Roller	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																																																																																																																																																											





### 7.24. 1-Bin Finisher (4/9)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	2301	DZJA000754	Plate, Belt Bracket	N	
	2302	DZKM000023	Plate, Belt Support	N	
	2303	DZJC000267	Plate, Stop	N	
	2304	DZHC000116	Plate, Clock	N	
	2305	DZKK000064	Plate, Tension	N	
	2306	DZJL000120	Bushing	N	
	2307	DZLF000368	Gear, 23T	N	
	2308	DZJL000122	Bushing	N	
	2309	DZLB000015	Pulley, 32T	N	
	2311	DZKN000216	Spring, Tension	N	
	2312	DZKN000215	Spring, Compression	N	
	2313	DZJL000121	Bushing	N	
	2314	DZJH000069	Flange	N	
	2315	DZGT000027	Brush, Discharge	N	
	2316	DZKC000007	Handle, Upper Guide	N	
	2317	DZJF000448	Guide, Upper	N	
	2318	DZLB000016	Pulley, 20T	N	
	2319	DZKN000217	Spring, Compression	N	
	2320	DZLK000020	Belt, Timing	N	
	2321	DZJC000268	Roller, Return	N	
	2322	DZKM000024	Sheet, Roller	N	
	2323	DZKG000128	Shaft, Roller	N	
	2324	DZHC000117	Actuator, Roller Sensor	N	
	2325	DZLB000017	Pulley, 64T	N	
	2326	DZKN000222	Spring, Tension	N	
	2327	DZLA000226	Roller A, Feed	N	
	2328	DZLA000227	Roller B, Feed	N	
	2329	DZLF000370	Gear, 23T	N	
	2330	DZLF000371	Gear, 42T	N	
	2331	DZLB000018	Pulley, 45T	N	
	2332	DZLK000015	Belt, Timing	N	
	2333	DZJH000070	Flange	N	
	2334	DZJA000755	Plate, Rear Support Collar	N	
	2335	DZJA000756	Plate, Front Support Collar	N	
	2337	DZJA000757	Holder, Pulley	N	
	2338	DZKG000129	Shaft, Pulley	N	
	2339	DZJA000758	Bracket, Front Pulley	N	
	2340	DZJA000759	Bracket, Rear Pulley	N	
	2341	DZKG000130	Shaft, Drive	N	
	2342	DZKG000131	Shaft, Input	N	
	2343	DZKG000132	Shaft, Carriage	N	
	2344	DZKN000220	Spring, Tension	N	
	2013	DZPA000004	Screw	N	
	2016	DZPA000029	Screw	N	
	2030	DZPA000043	Screw	N	
	2031	DZPA000046	Screw	N	
	2040	DZPA000055	Screw	N	
	2041	DZPA000056	Screw	N	
	2042	DZPA000057	Screw	N	
	2047	DZPG000013	Pin, Dowel	N	
	2048	DZFG000014	Pin, Dowel	N	
	2049	DZPG000015	Pin, Dowel	N	
	2051	DZPJ000003	E-Clip	N	
	2057	DZPJ000014	E-Clip	N	
	2058	DZPJ000015	E-Clip	N	
	2061	DZPA000045	Screw	N	
	2062	DZJH000071	Washer	N	

Safety Mark	Ref No.	Part No.	Part Name	New parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	FA	FB	FC	FE	FG	YH	YJ	YK	YL	YM	YN	YO	YP	YQ	YS	YT	YU	YV	YW	YX	YY		
	2221	DZJA000752	Frame, Front	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2222	DZJA000753	Frame, Rear	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2715	DZLK000019	Belt, Timing	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

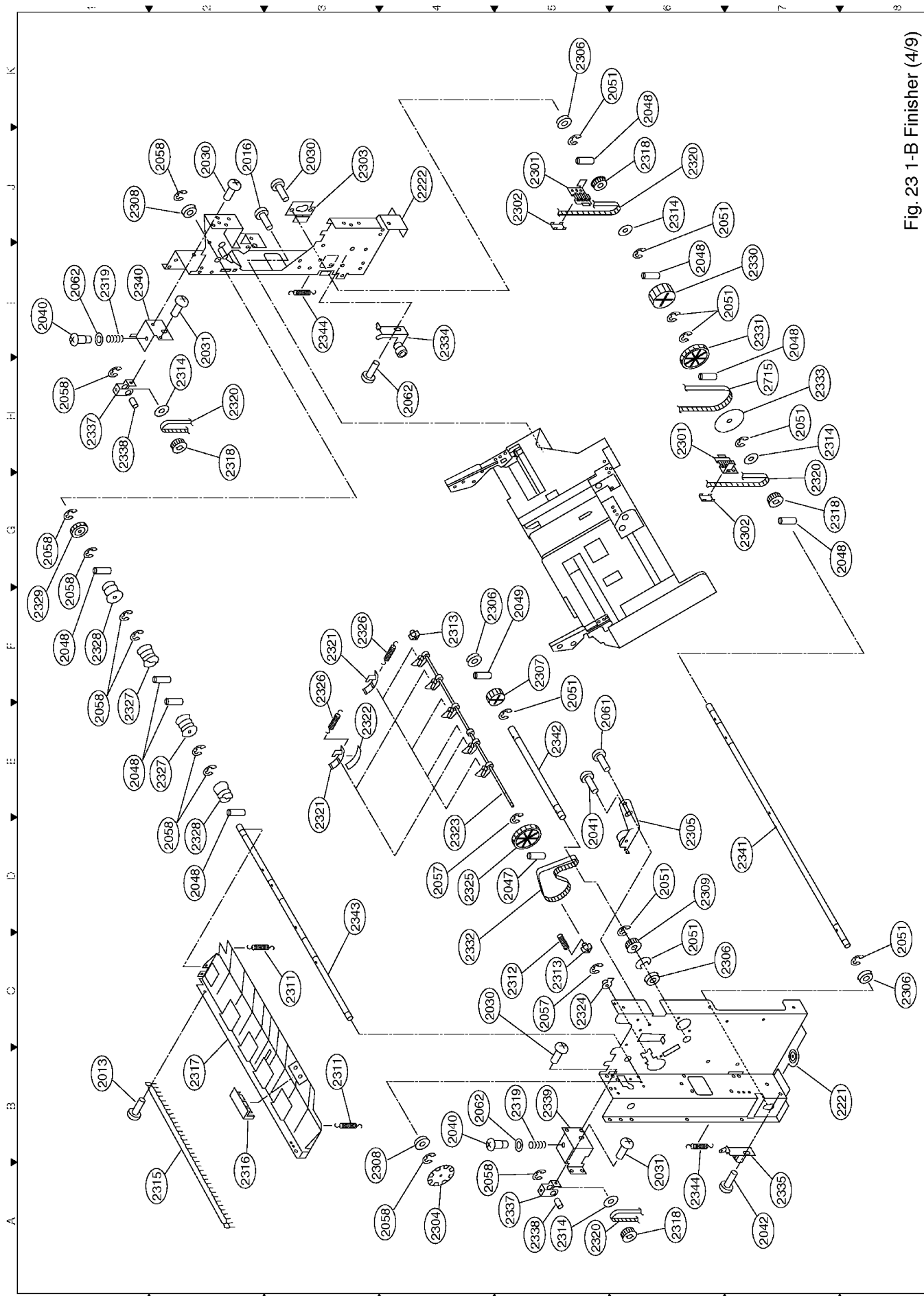


Fig. 23 1-B Finisher (4/9)

### 7.25. 1-Bin Finisher (5/9)

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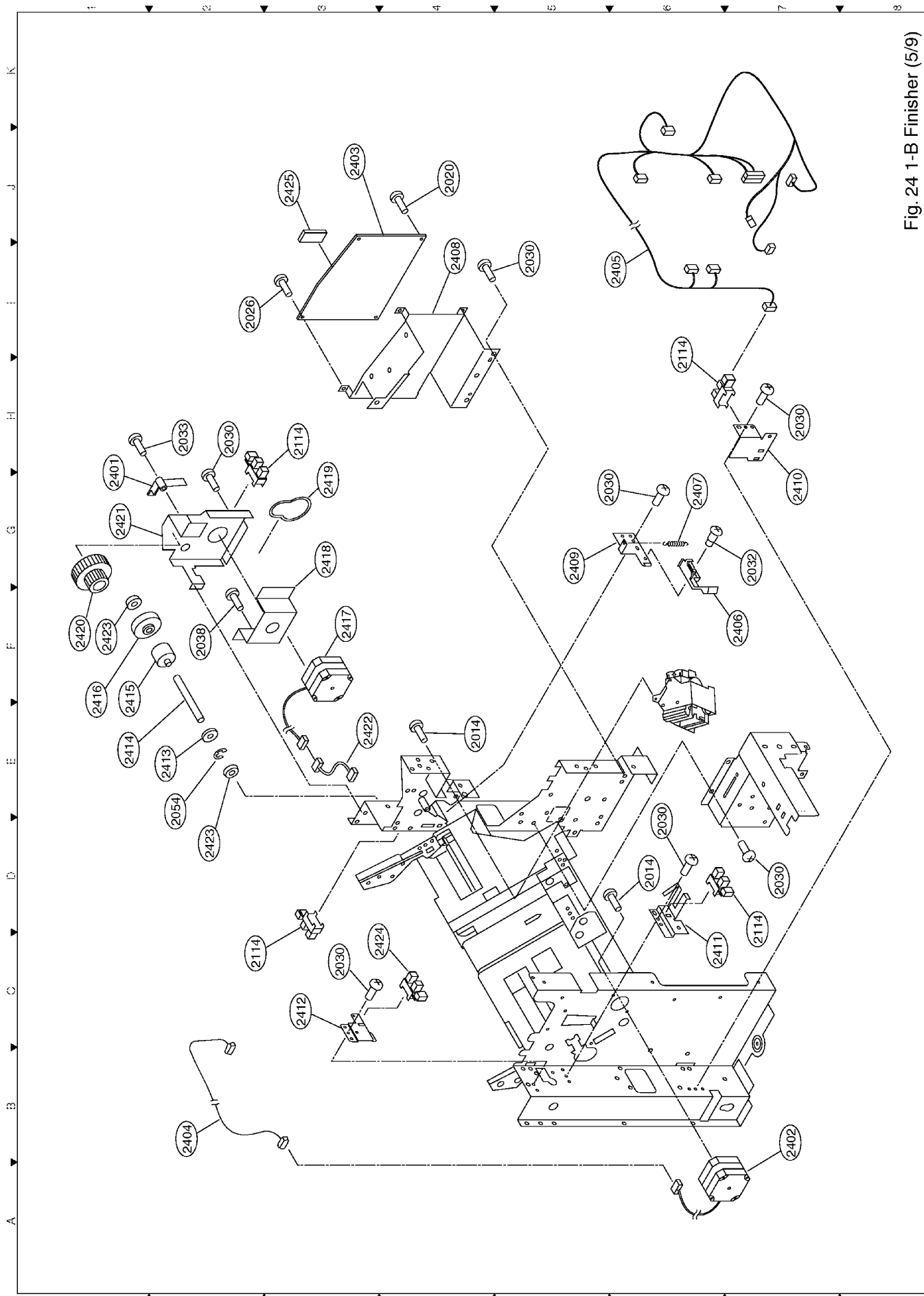


Fig. 24 1-B Finisher (5/9)

**7.26. 1-Bin Finisher (6/9)**

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	2501	DZHC000119	Plate, Clock	N	
	2502	DZK000065	Plate, Tension	N	
	2503	DZGG000042	Motor, Finisher 3	N	
	2504	DZLB000019	Pulley, 20T	N	
	2505	DZLB000020	Pulley, 20T5OT	N	
	2506	DZH0000072	Flange	N	
	2507	DZLF000377	Pulley, 45T/Gear, 15T	N	
	2508	DZLF000375	Gear, 15T35T	N	
	2509	DZLFO00376	Gear, 14T31T	N	
	2510	DZLK000017	Belt, Timing	N	
	2511	DZJA000762	Base, Sensor	N	
	2512	DZJA000763	Bracket, Gear	N	
	2030	DZPA000043	Screw	N	
	2039	DZPA000054	Screw	N	
	2046	DZPA000060	Screw	N	
	2055	DZPJ000012	R-Clip	N	
	2058	DZPJ000015	R-Clip	N	
	2061	DZPA000045	Screw	N	
	2114	DZAL000126	Sensor	N	
	2344	DZKN000220	Spring, Tension	N	

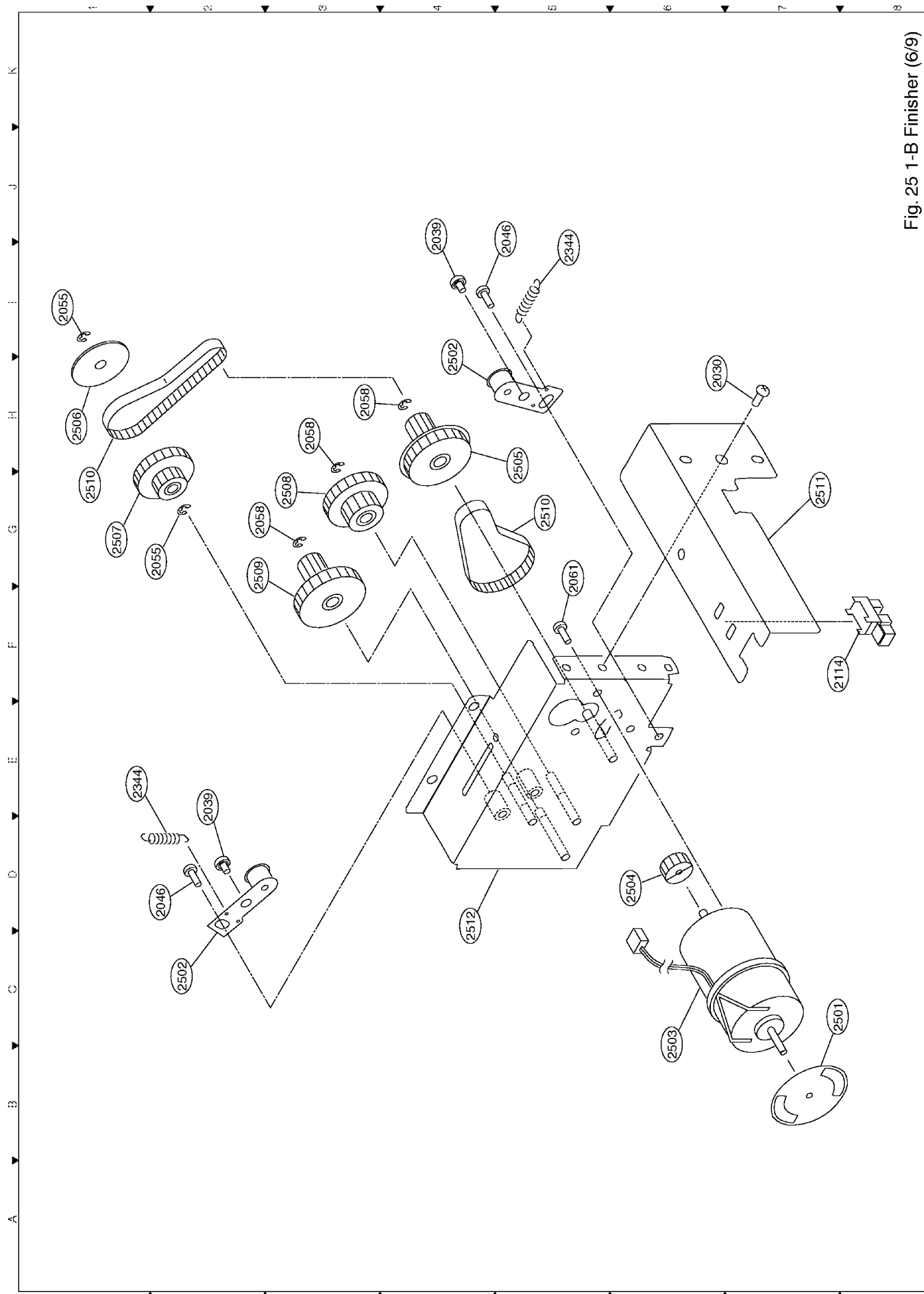


Fig. 25 1-B Finisher (6/9)

**7.27. 1-Bin Finisher (7/9)**

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	2601	DZKP000219	Plate, Ground	N	
	2602	DZHC000120	Actuator, Paper Sensor	N	
	2603	DZKQ000048	Spring, Torsion	N	
	2604	DZJC000274	Plate, Adjusting Collar Guide	N	
	2605	DZKQ000049	Spring, Tension	N	
	2606	DZFP000931	Harness, Adjustment Motor	N	
	2607	DZFC000624	Connector, Snap Tight	N	
	2608	DZFP000932	Harness, Operating Tray	N	
	2609	DZF0000450	Plate, Operating Tray	N	
	2610	DZKG000134	Puller, Shaft	N	
	2611	DZLK000018	Belt, Paper Feed	N	
	2612	DZF0000451	Guide, Paper	N	
	2613	DZHC000121	Lever, Paper Sensor	N	
	2614	DZJC000275	Plate, Front Pulley	N	
	2615	DZJC000276	Plate, Rear Pulley	N	
	2616	DZLB000021	Pulley, 22T	N	
	2617	DZH0000073	Flange	N	
	2618	DZF0000452	Rack, Front Adjustment	N	
	2619	DZF0000454	Plate, Front Adjustment	N	
	2620	DZJA000764	Support, Front Adjustment	N	
	2621	DZKP000216	Plate Spring	N	
	2622	DZF0000453	Rack, Rear Adjustment	N	
	2623	DZF0000455	Plate, Rear Adjustment	N	
	2624	DZFA000765	Support, Rear Adjustment	N	
	2625	DZJC000277	Plate, Front Adjusting	N	
	2626	DZJC000278	Plate, Front Drive	N	
	2627	DZH0000074	Flange	N	
	2628	DZLF000378	Gear, 18T48T	N	
	2629	DZJC000279	Collar	N	
	2630	DZGG000045	Motor, Finisher 4	N	
	2631	DZLA000228	Collar	N	
	2632	DZH0000075	Flange	N	
	2633	DZKN000223	Coil Spring	N	
	2634	DZFA000766	Plate, Rear Drive	N	
	2636	DZF0000456	Guide, Actuator	N	
	2637	DZH0000076	Flange	N	
	2638	DZJA000767	Bracket, Actuator	N	
	2639	DZML000359	Base, Adjustment	N	
	2640	DZTC000280	Holder, Actuator	N	
	2641	DZJC000281	Bracket, Collar	N	
	2642	DZJC000282	Bracket, Actuator	N	
	2014	DZPA000005	Screw	N	
	2030	DZPA000043	Screw	N	
	2034	DZPA000049	Screw	N	
	2035	DZPA000050	Screw	N	
	2036	DZPA000051	Screw	N	
	2037	DZPA000052	Screw	N	
	2043	DZPA000058	Screw	N	
	2050	DZFG000016	Pin, Dowel	N	
	2052	DZPJ000009	E-Clip	N	
	2057	DZPJ000014	E-Clip	N	
	2058	DZPJ000015	E-Clip	N	
	2114	DZAL000126	Sensor	N	
	2308	DZTL000122	Bushing	N	
	2329	DZLF000370	Gear, 23T	N	



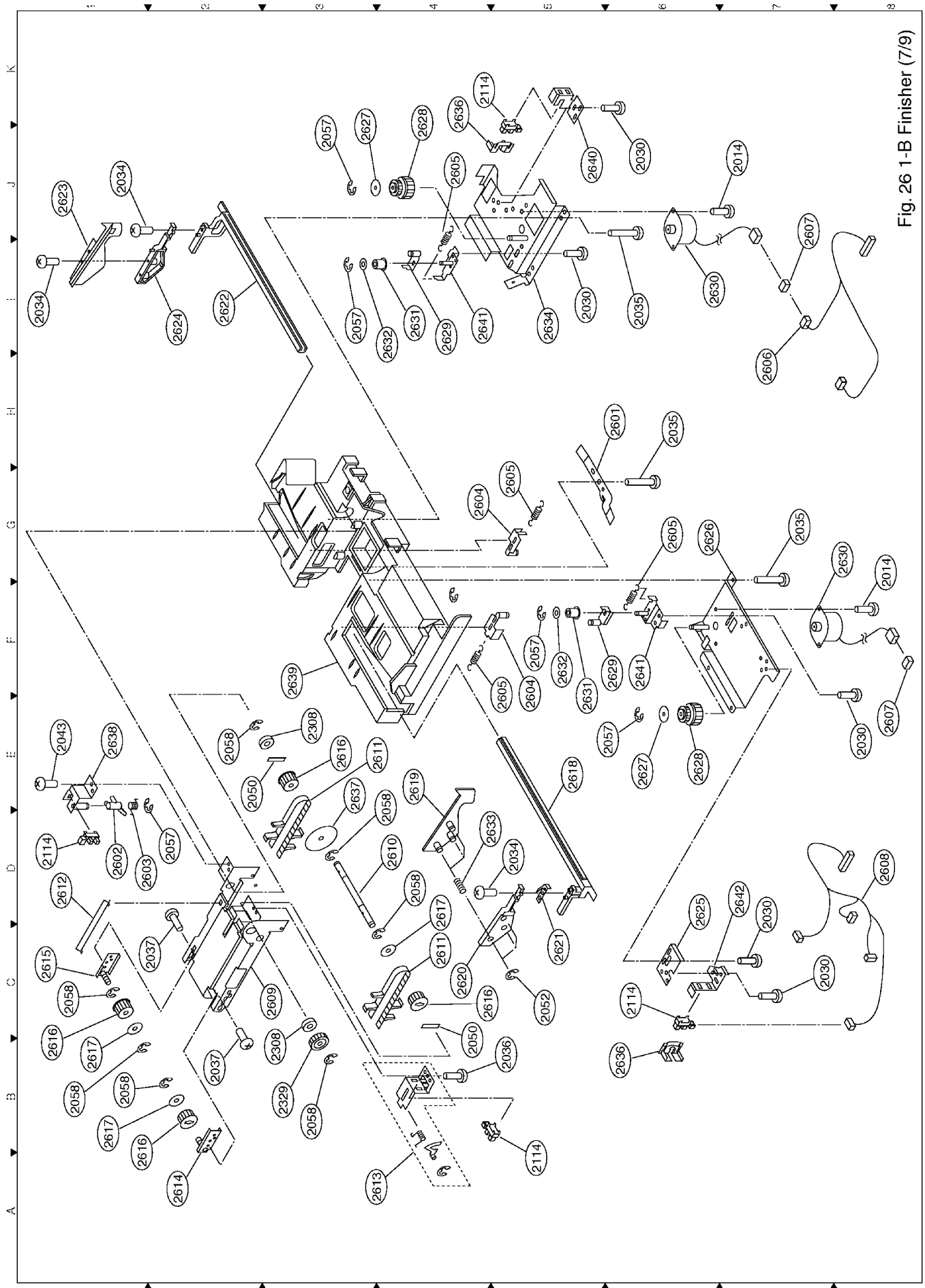


Fig. 26 1-B Finisher (7/9)



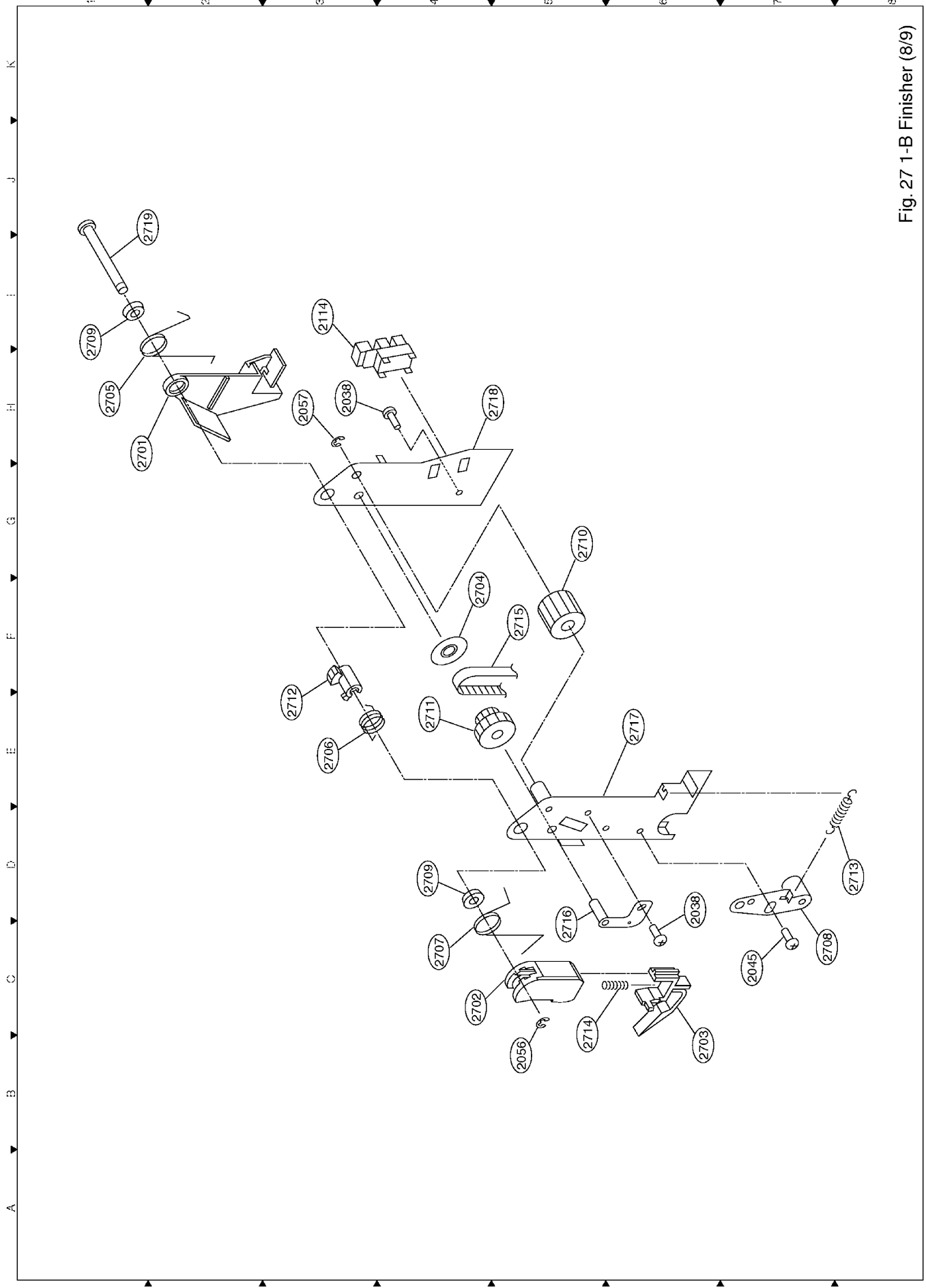


Fig. 27 1-B Finisher (8/9)

7.29. 1-Bin Finisher (9/9)

Safety Mark	Ref No.	Part No.	Part Name	New parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	EA	YB	YC	YE	YF	YG	YH	YJ	YM	YN	YP	YS	YT	YU	YV	YW	YX	YY		
	2801	DZHP003919	Staple Cartridge	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2802	DZHP003920	Staple Unit	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2803	DZFP000933	Harness, Staple Connecting	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2804	DZJF000457	Plate, Guide	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2805	DZJC000286	Staple Holder	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2806	DZJF000458	Plate, Lower Guide	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2014	DZFA000005	Screw	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

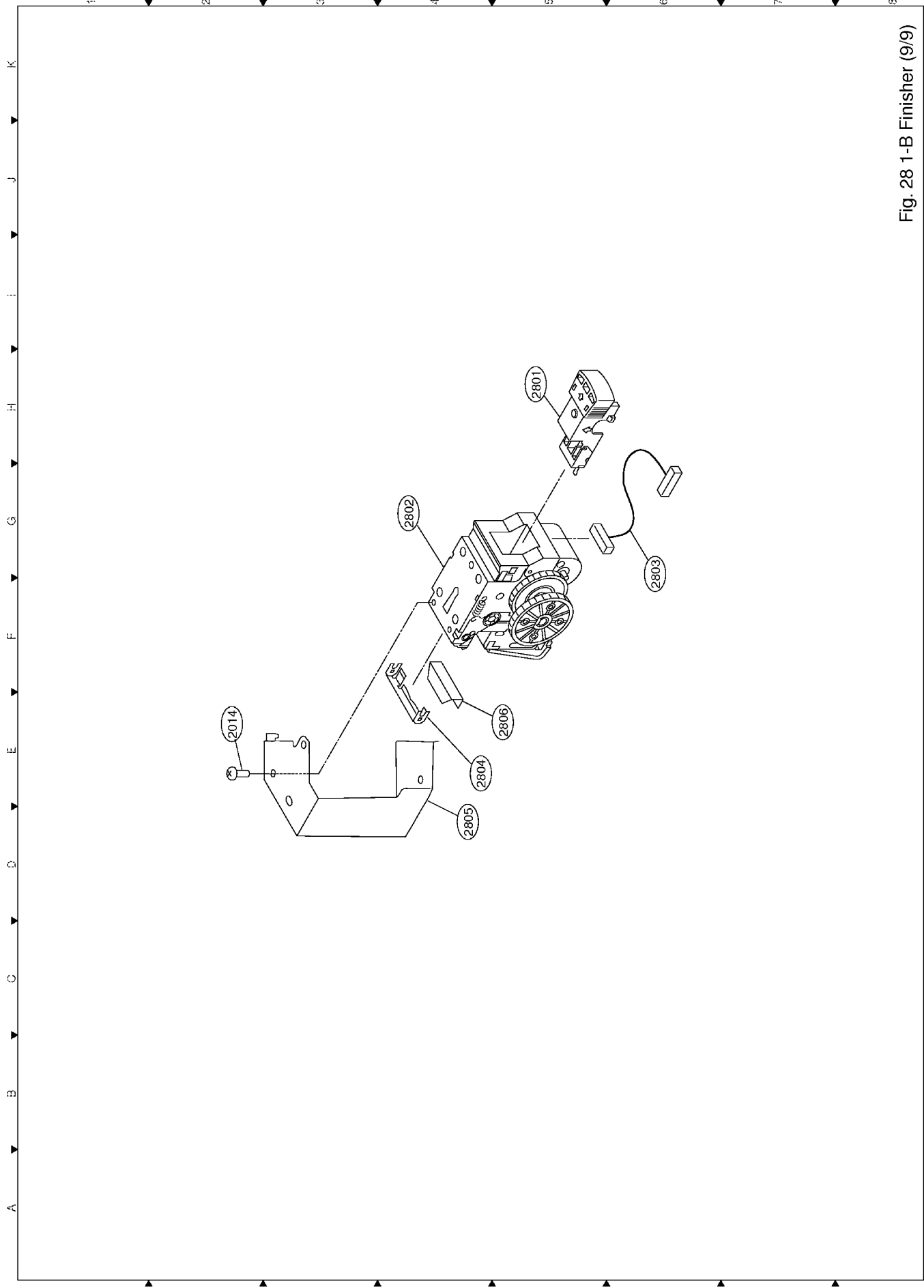


Fig. 28 1-B Finisher (9/9)

### 7.30. Packing and Accessories

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	VA	VB	YC	YE	YF	YG	YH	YJ	YK	YN	YR	YS	YT	YU	YV	YW	YY	YZ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
A	2902	DZFM000009	Cord, AC Power	N	The Part Number depends on each individual country	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

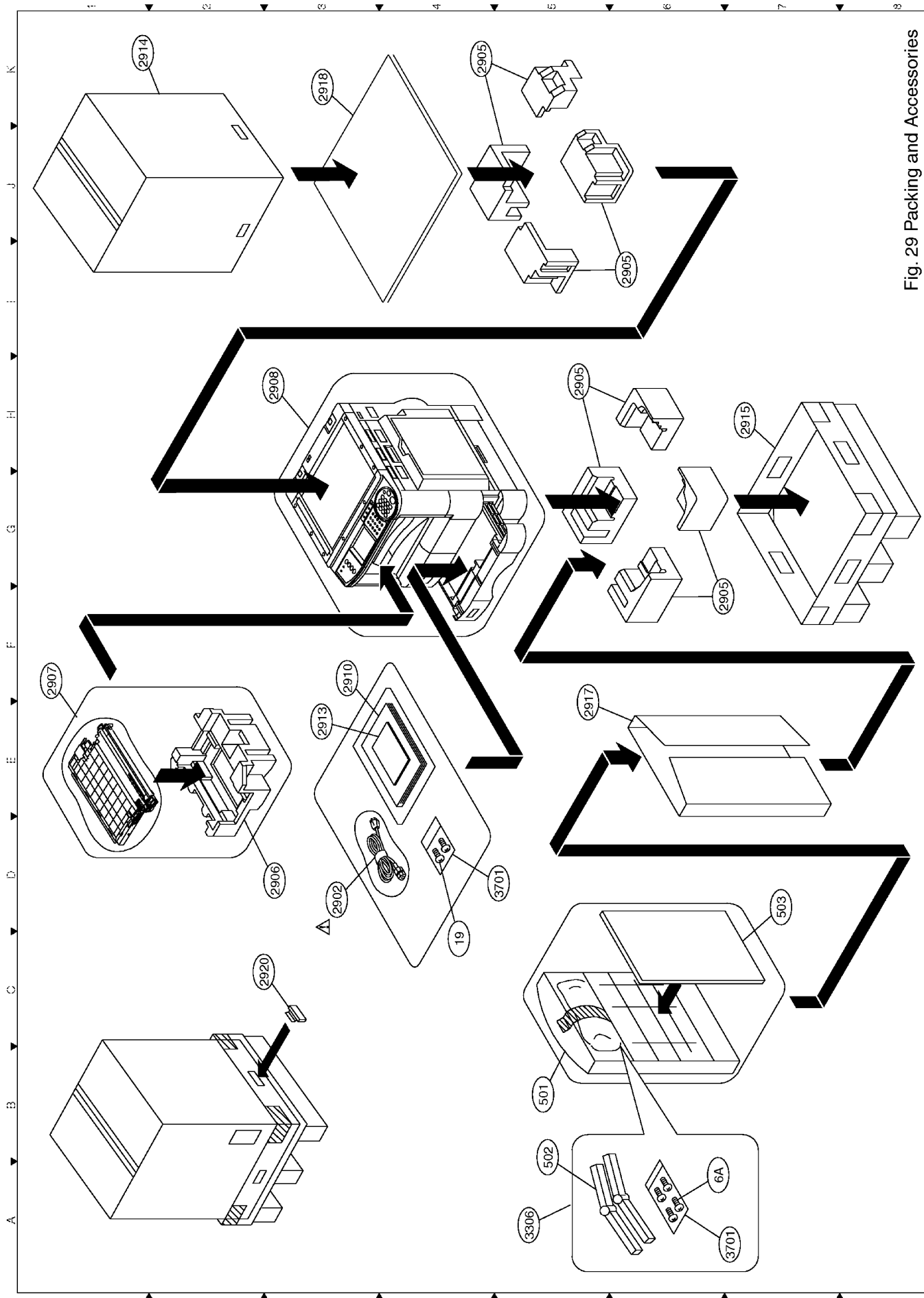


Fig. 29 Packing and Accessories





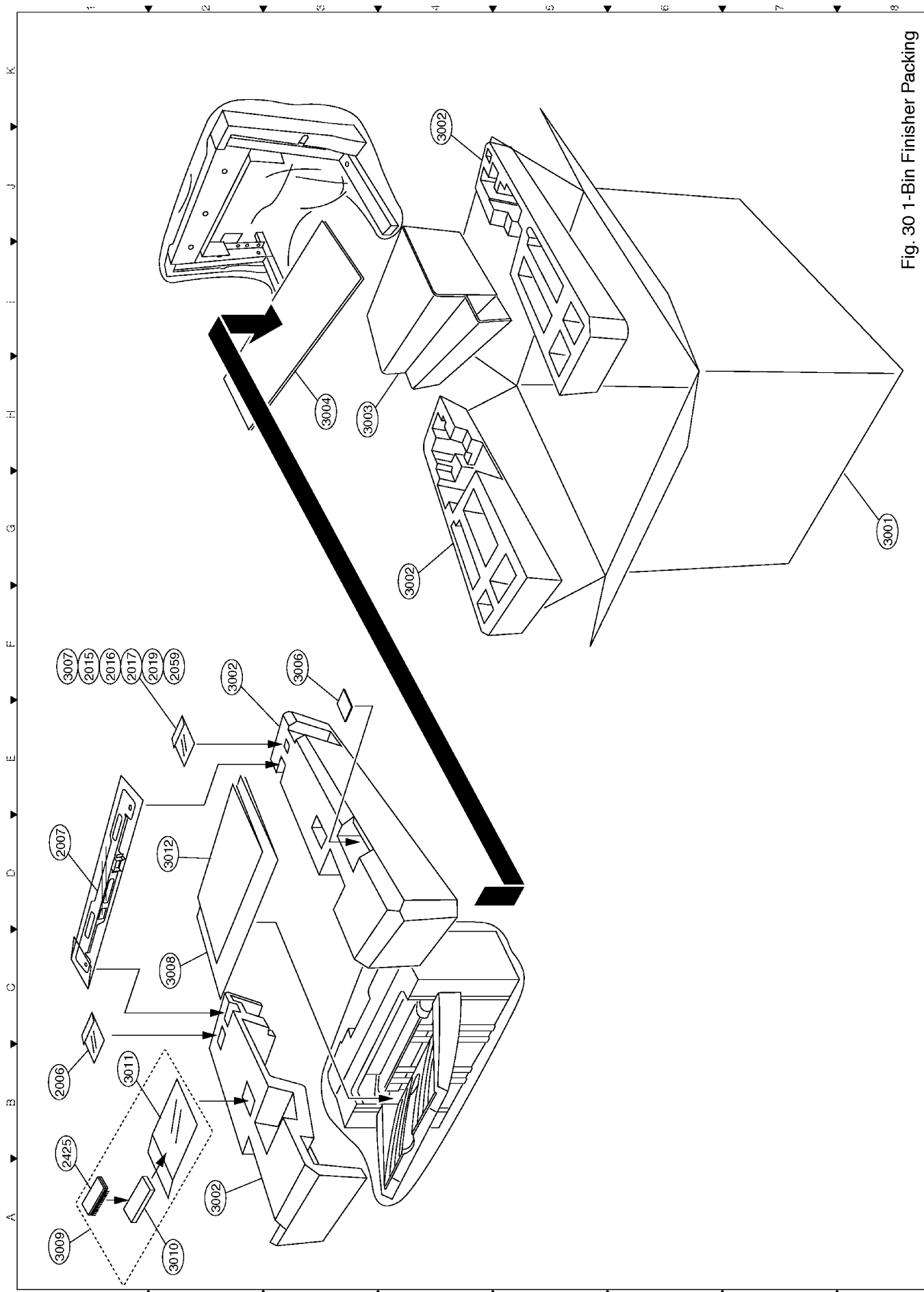


Fig. 30 1-Bin Finisher Packing







### 7.33. ADF Packing and Accessories

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	3301	DZRH000386	Cushion, Cardboard	N	
	3302	DZRH000341	Cushion Assembly	N	
	3303	DZRJ000033	Bag, Polyethylene	N	
	3304	DZSM000261	Installation Manual	N	
	3305	DZRB000481	Carton Box (DA-AR250)	N	For ADF
		DZRB000482	Carton Box (DA-AS200)	N	For SADF
	3306	DZRG000020	Bag, Protective	N	
	3308	DZRJ000029	Plastic Bag	N	
	503	DZJM000428	Pad, Scanning	N	
	1636	DZHT000027	Stamp Head (Blue)	C	
		DZHT000004	Stamp Head (Pink)		
	1654	DZPA000064	Thumb screw	N	
	1655	DZJA000730	Bracket, ADF Mounting	N	
	1656	DZMC000713	Cover, Hinge	N	
	1657	DZJA000726	Stopper, Hinge	N	
	2907	DZRJ000012	Bag, Process Unit	N	
	19	XTB3+8J	Screw	C	
	6A	XTB3+12J	Screw	C	
	B5	XSB4+10BN	Screw, Silver	C	

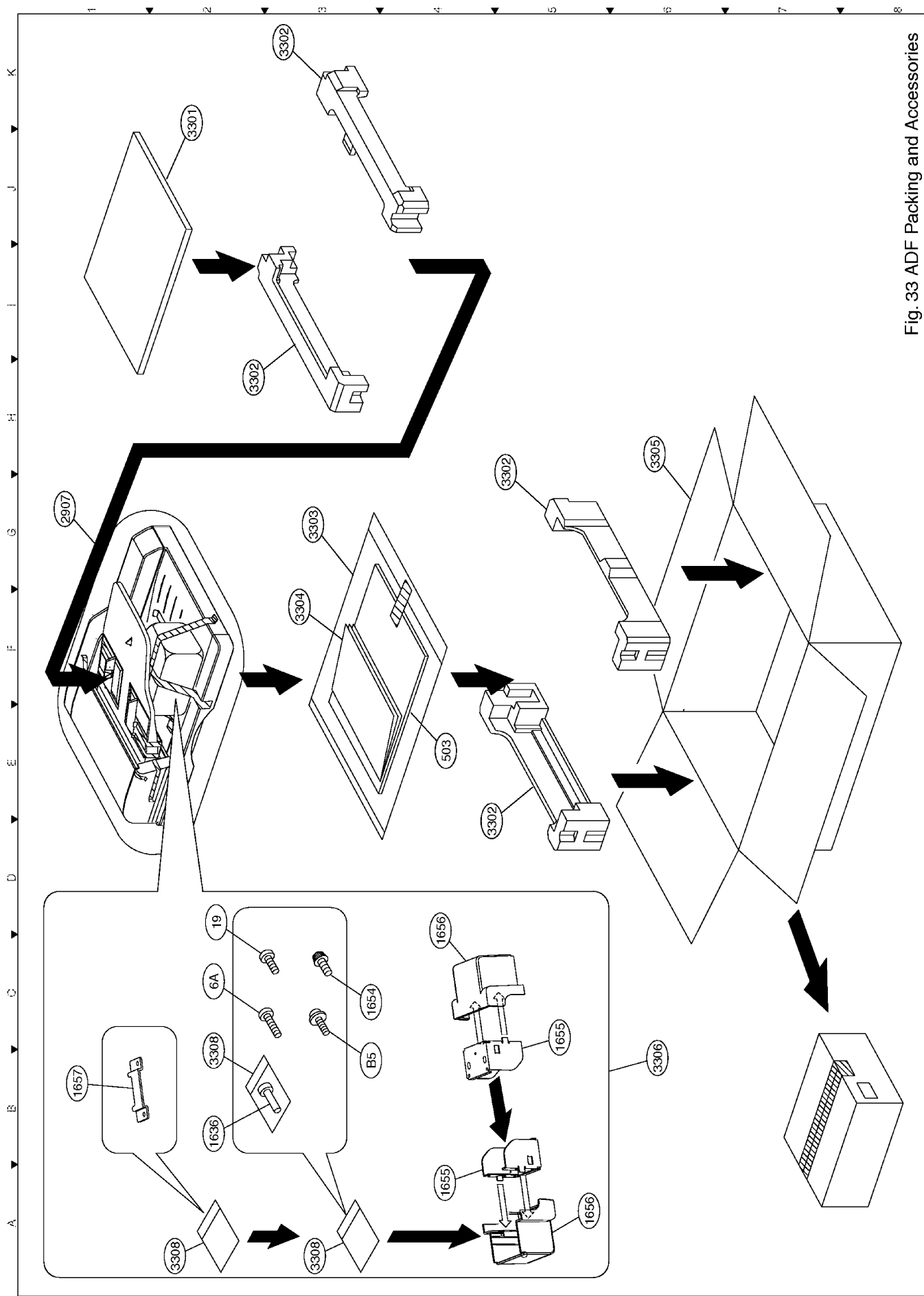


Fig. 33 ADF Packing and Accessories

### 7.34. Automatic Document Feeder (1/3)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	3401	DZMA002349	Cover, Rear	N	
	503	DZJM000428	Pad, Scanning	N	
	1045	DZAL000072	Sensor	N	
	1604	DZMA002341	Tray, ADF Input	N	
		DZMA002474			
	1605	DZMA002347	Original Guide, Rear	N	
		DZMA002345	Original Guide, Front	N	
	1607	DZKQ000012	Spring, Actuator	C	
	1609	DZHC000057	Actuator, ADF	C	
	1610	DZJM000159	Base, Actuator	C	
	1611	DZJA000699	Bracket, Actuator	N	
	1612	DZMA002348	Rack, Original Guide	N	
		DZLFO00077	Gear, D14	C	
	1616	DZMA002343	Cover, ADF Tray Bottom	N	
	1622	DZJA000724	Hinge, Arm	N	
	1623	DZJA000727	Plate, Reinforcement	N	
	1624	DZKG000124	Shaft, P6	N	
	1625	DZJA000728	Base, Right Hinge (B)	N	
	1626	DZKP000208	Plate Spring, Pinch Roller	N	
	1627	DZLA000080	Roller, Pinch	C	
	1628	DZJA000689	Guide, White Seal	N	
	1629	DZKN000187	Spring, White Seal Guide	N	
	1630	DZJM000367	Seal, White	N	
	1632	DZKN000207	Coil Spring, Ground	N	
	1633	DZMA002333	Base, ADF	N	
	1634	DZJM000429	Bracket, Stamp Solenoid	N	
	1635	DZHP003774	Solenoid, Stamp	C	
	1636	DZHT000027	Stamp Head (Blue)	C	
	1636	DZHT000004	Stamp Head (Pink)	C	
	1637	DZMA002335	Cover, ADF Front	N	
	1653	DZKP000215	Plate Spring, ADF Input Tray	N	
	1654	DZPA000064	Thumb Screw	N	
	1655	DZJA000730	Bracket, ADF Mounting	N	
	1656	DZMC000713	Cover, Hinge	N	
	1657	DZJA000726	Stopper, Hinge	N	
	1658	DZJM000449	Film, Hinge	N	
	1659	DZJC000289	Carrier, Sleeve	N	
	1660	DZJP000026	Felt	N	
	1661	DZJC000288	Holder, Sleeve	N	
	1662	DZJM000469	Sleeve, Right	N	
	1665	DZJM000475	Slider	N	
	1666	DZJM000494	Cover Film, Top	N	
	1667	DZJM000493	Spacer	N	
	1701	DZLM000007	Bushing, P6L7.4	C	
	1935	DZFP000888	Harness, ADF	N	
		DZFP000973			
	1936	DZFP000889	Harness, AMT	N	
	1939	DZFP000892	Harness, SNS	N	
	1940	DZFP000893	Harness, B1S	N	
	1941	DZFP000906	Harness, APNT	N	
	1942	DZFP000894	Harness, B2S	N	
	19115	DZECl01552	PC Board, ADF	N	For ADF
		DZECl01648	PC Board, ADF (iADF)	N	For iADF
A	19116	DZECl01553	PC Board, SNS	N	
	19149	DZFPO00974	Harness, ADF-FG	N	
	19	XTB3+8J	Screw	C	
	5Y	XUC4	R-Clip	C	





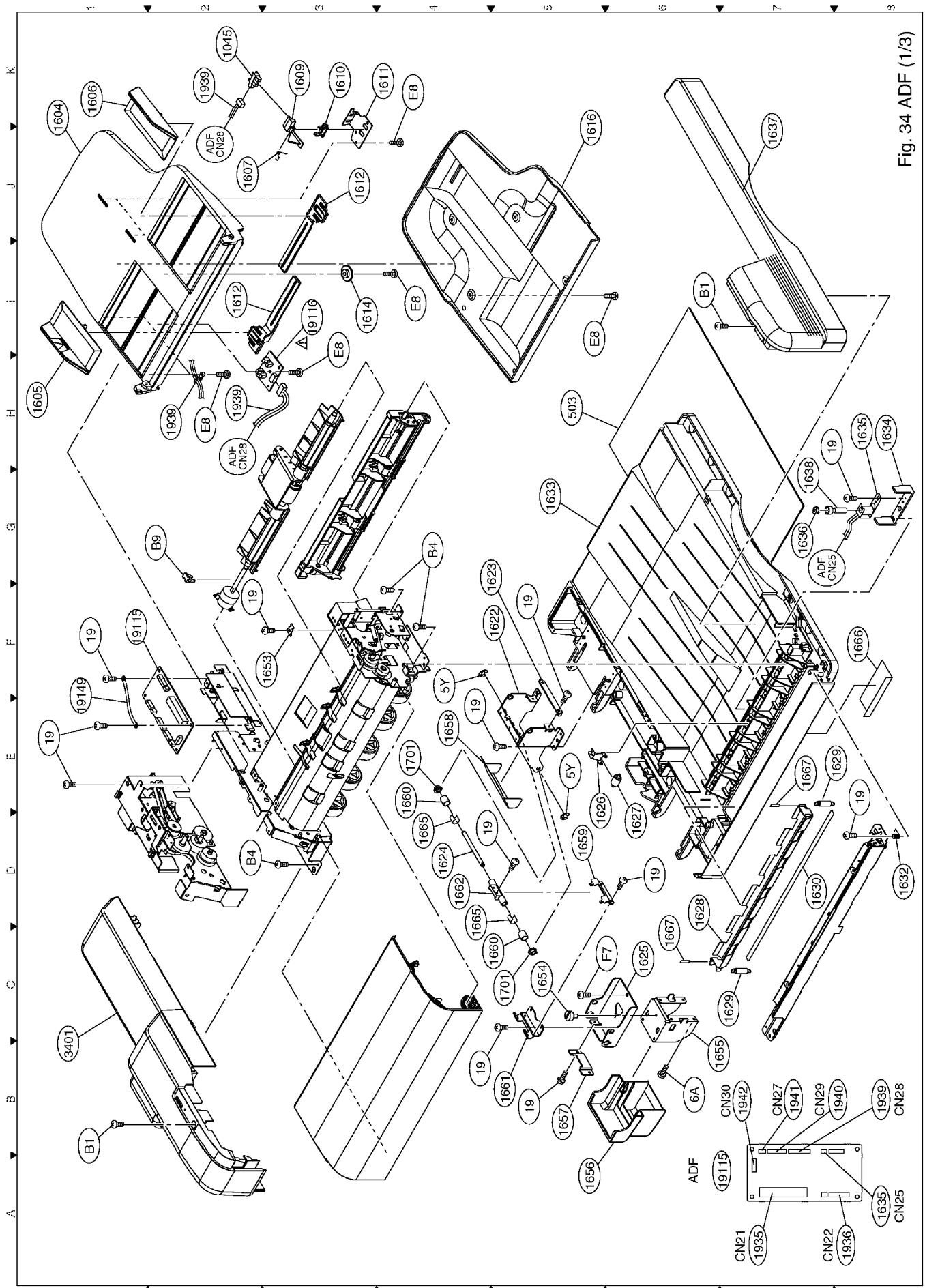


Fig. 34 ADF (1/3)

### 7.35. Automatic Document Feeder (2/3)

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note
	3501	DZJF000411	Guide, Upper ADF	N	
	3502	DZJA000701	Bracket, Rear ADF	N	
	3503	DZJA000700	Bracket, Front ADF	N	
	3504	DZJA000721	Bracket S, B2 Sensor	N	
	3505	DZLA000222	Roller, Exit	N	
	3506	DZJA000722	Guide, Feed 2 Roller	N	
	3507	DZKN000204	Spring, Hinge (Black, ADF)	N	
	3508	DZLF000263	Gear, E18	N	
	3509	DZPK000019	Slider	C	
	3510	DZPK000013	Washer, Wave	C	
	271	FPPFJ0041	Ring, Snap	N	
	1008	DZLM000109	Bushing, P3.5L5	N	
	1045	DZAL000072	Sensor	N	
	1260	DZGA000007	Clutch	N	
	1417	DZPK000017	Washer, Polyethylene	N	
	1621	DZJU000115	Bushing	C	
	1622	DZJA000724	Hinge, Arm	N	
	1623	DZJA000727	Plate, Reinforcement	N	
	1624	DZKG000124	Shaft, P6	N	
	1654	DZPA000064	Thumb Screw	N	
	1655	DZJA000730	Bracket, ADF Mounting	N	
	1656	DZMC000713	Cover, Hinge	N	
	1657	DZJA000726	Stopper, Hinge	N	
	1658	DZJM000449	Film, Hinge	N	
	1664	DZJA000725	Base, Left Hinge (A)	N	
	1701	DZLM000007	Bushing, P6I7.4	C	
	1702	DZKG000122	Shaft, P8L	N	
	1705	DZKG000123	Shaft, P8S	N	
	1706	DZJM000434	Holder, Spring T (Shallow Groove)	N	
	1707	DZJM000435	Holder, Spring B (Deep Groove)	N	
	1711	DZJA000694	Plate, Reinforcement B	N	
	1712	DZJA000693	Plate, Reinforcement A	N	
	1714	DZLF000382	Gear, E18	N	
	1716	DZLF000036	Gear, E25	C	
	1718	DZLF000028	Gear, E14E28	C	
	1720	DZJK000046	Clamp, Harness	C	
	1722	DZKM000020	Sheet, ADF	N	
	1724	DZKG000109	Shaft, ADF	N	
	1725	DZJM000411	Guide, Rear ADF	N	
	1726	DZJM000410	Guide, Front ADF	N	
	1727	DZJM000408	Holder, ADF	N	
	1728	DZLA000205	Roller, ADF	N PM	
	1729	DZLF000329	Gear, ADF	N	
	1730	DZKG000107	Shaft, Pre-Feed Roller	N	
	1731	DZLA000204	Roller, Pre-Feed	N PM	
	1732	DZLF000330	Gear, Pre-Feed Roller	N	
	1733	DZLF000385	Gear, D16	C	
	1736	DZJF000408	Guide, Lower ADF	N	
	1737	DZJM000409	Stopper, Original	N	
	1738	DZKG000111	Shaft, Separation Roller	N	
	1739	DZJM000415	Bushing	N	
	1740	DZLA000206	Roller, Separation	N	
	1741	DZJM000416	Bushing, Torque Limiter	N PM	
	1742	DZKG000031	Spring, Torque Limiter	N PM	
	1746	DZJM000414	Gear, Pre-Feed Roller	N	
	1747	DZKN000184	Spring, Separation Roller	N	
	1748	DZJM000413	Holder, Separation Roller	N	



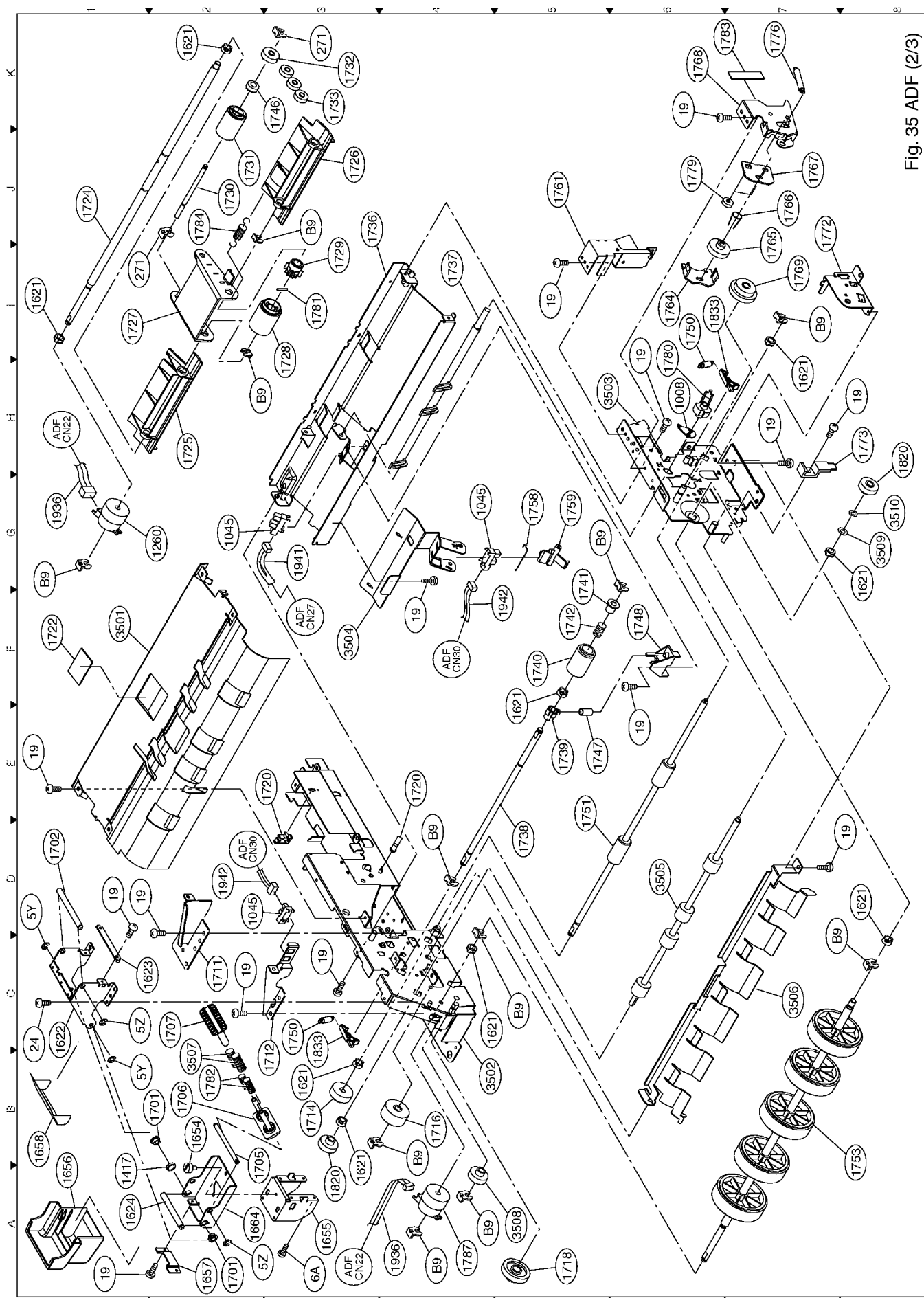


Fig. 35 ADF (2/3)



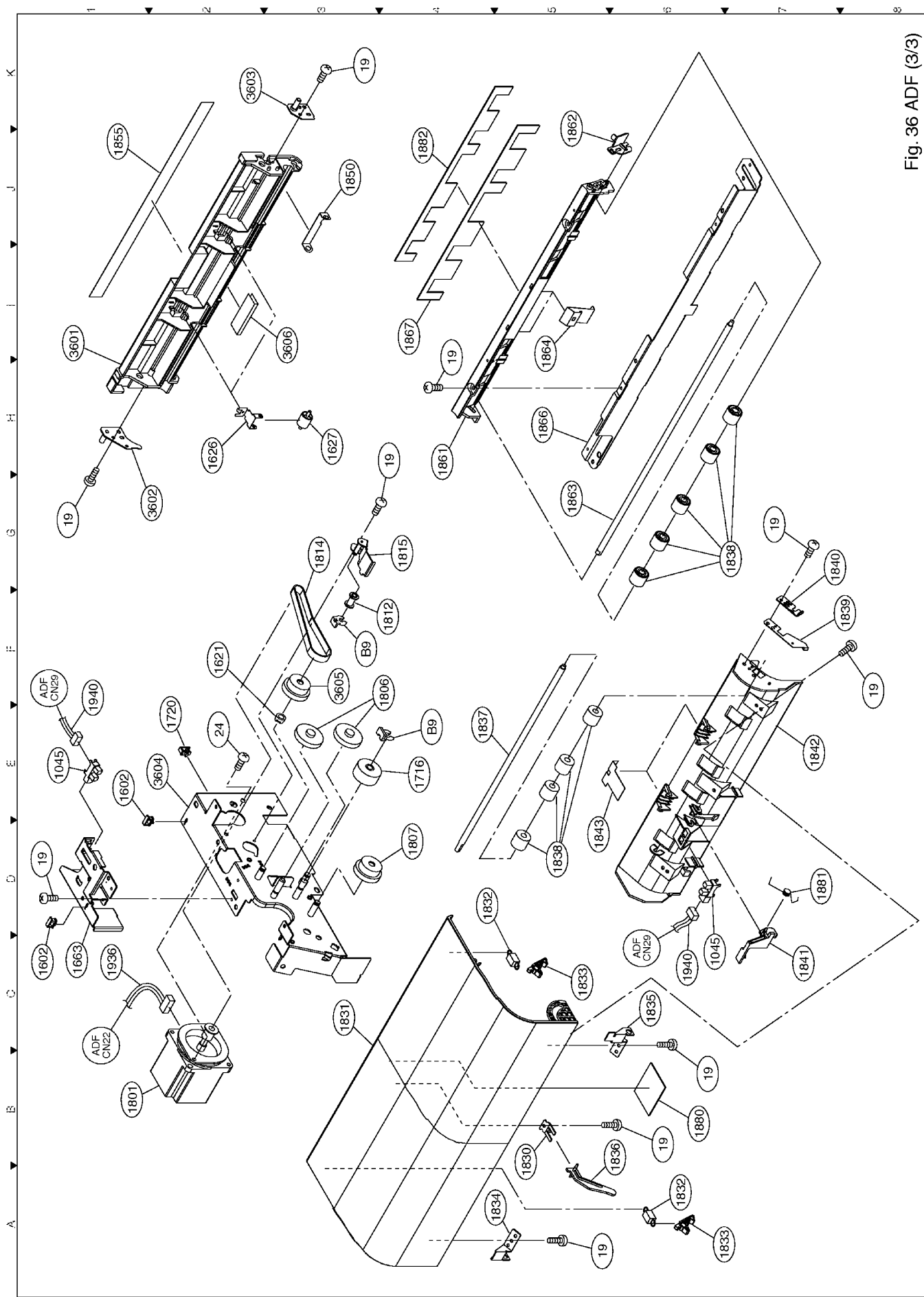


Fig. 36 ADF (3/3)



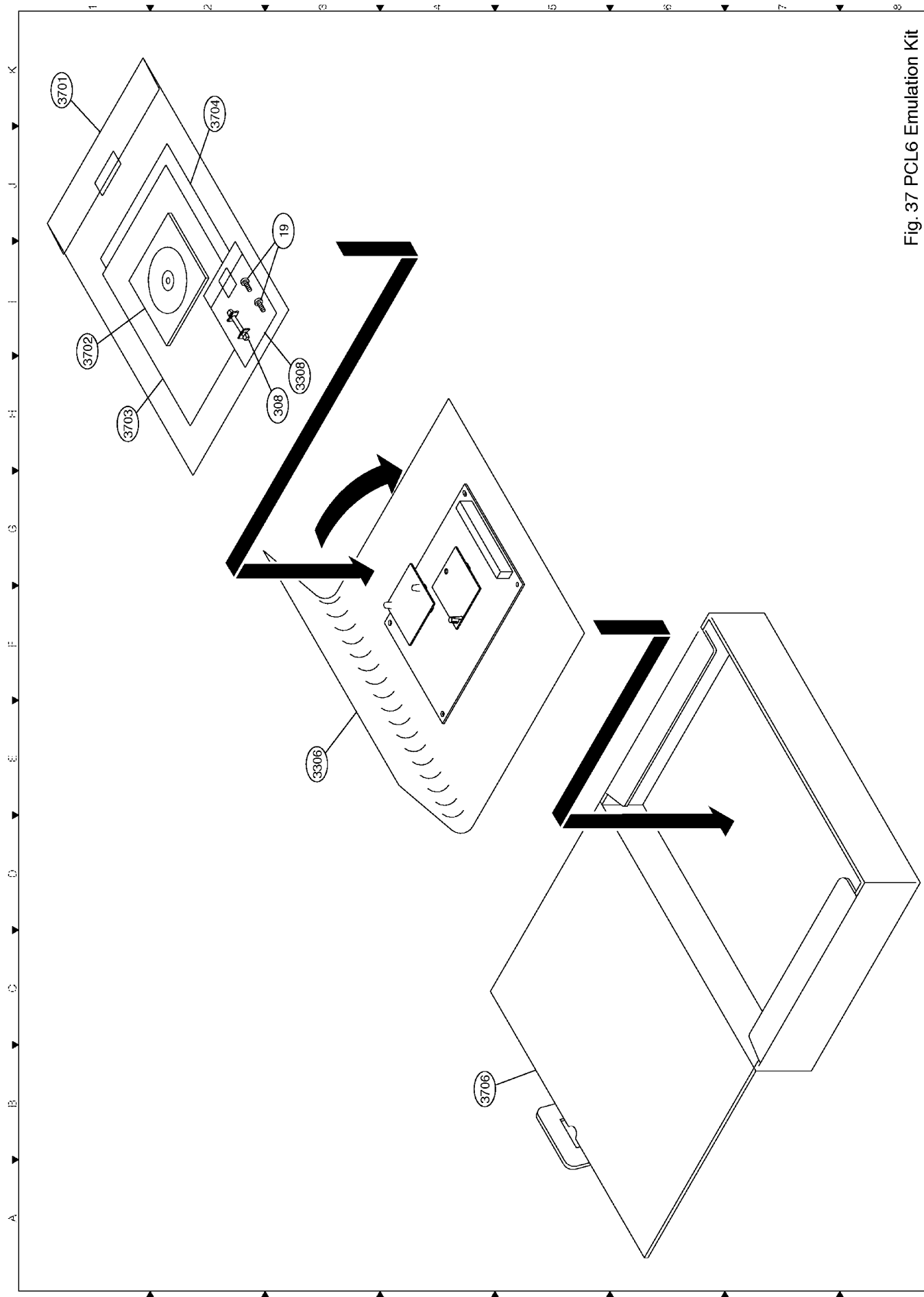


Fig. 37 PCL6 Emulation Kit



### 7.38. 10/100 Ethernet Interface/Internet Fax Kit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AI	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	AX	EZ	EA	EB	EC	ED	EE	FA	FB	FC	FE	FF	FG	YH	YJ	YK	YN	YS	YT	YU	YV	YW	YY	YZ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		DZSD001100	Operating Instructions (For LAN Option)	N	For DP-2500/3000 (The Part Number depends on each individual country)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

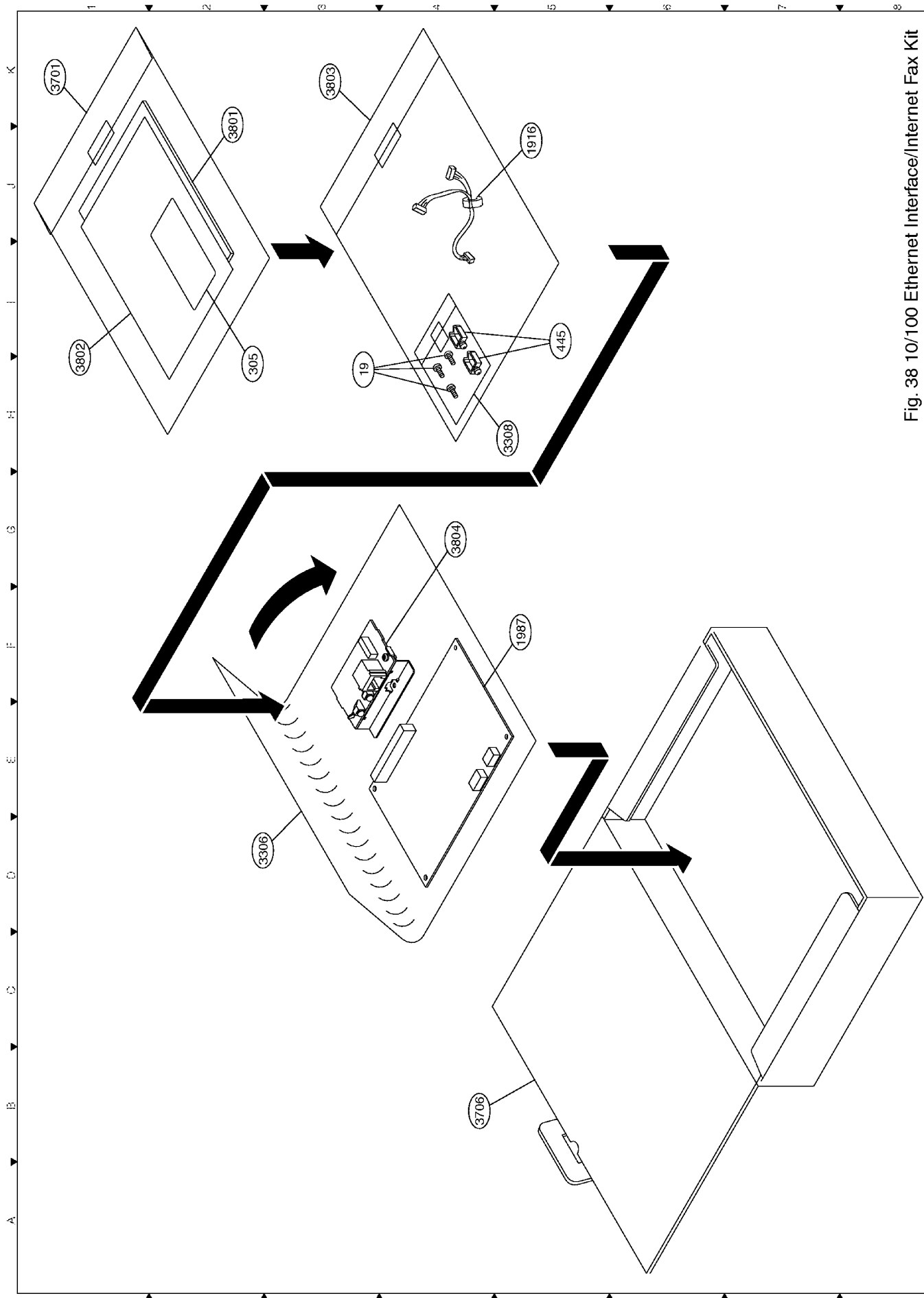


Fig. 38 10/100 Ethernet Interface/Internet Fax Kit

### 7.39. Fax Communication Kit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	VA	VB	VC	VE	YF	YG	YH	YJ	YK	YN	YR	YS	YT	YU	YV	YW	YX	YY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
3901		DZSD001094	Operating Instructions (For FAX)	N	For DP-2500/3000 (The Part Number depends on each individual country) For Canadian French Kit (For DP-2500/3000)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





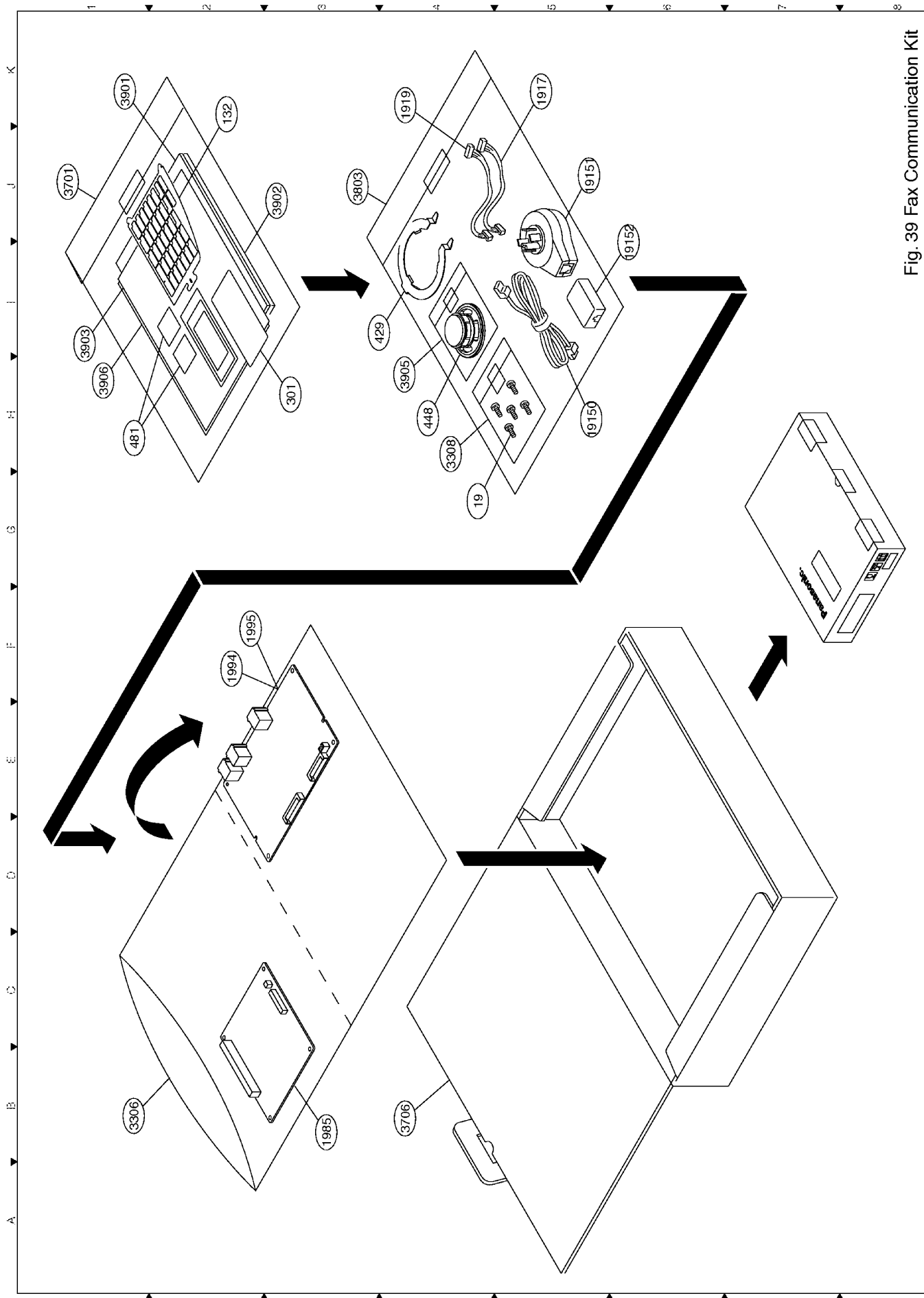


Fig. 39 Fax Communication Kit

7.40. Parallel Pt Interface Kit

Safety Mark	Ref No.	Part No.	Part Name	New Parts	Note	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AU	AV	AW	ED	EE	YA	YB	YC	YE	YF	YG	YH	YJ	YK	YN	YR	YS	YT	YU	YV	YW	YX	YY			
	4001	DZPQ000008	Software CD	N	The Part Number depends on each individual country	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	4002	DZSQ000009	Install Guide, PRIF OP(PU)	N		1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	1922	DZFP000883	Harness, PRIF (18-pin)	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	1923	DZFP000884	Harness, PRIF (25-pin)	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	3306	DZRT000020	Bag, Protective	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	3701	DZRT000002	Bag, Polyethylene	N		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	3703	DZSH000112	License Agreement	N	The Part Number depends on each individual country	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3706	DZRH000101	Carton Box	N		1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	3803	DZRT000003	Bag, Polyethylene	N		-	1	1	-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

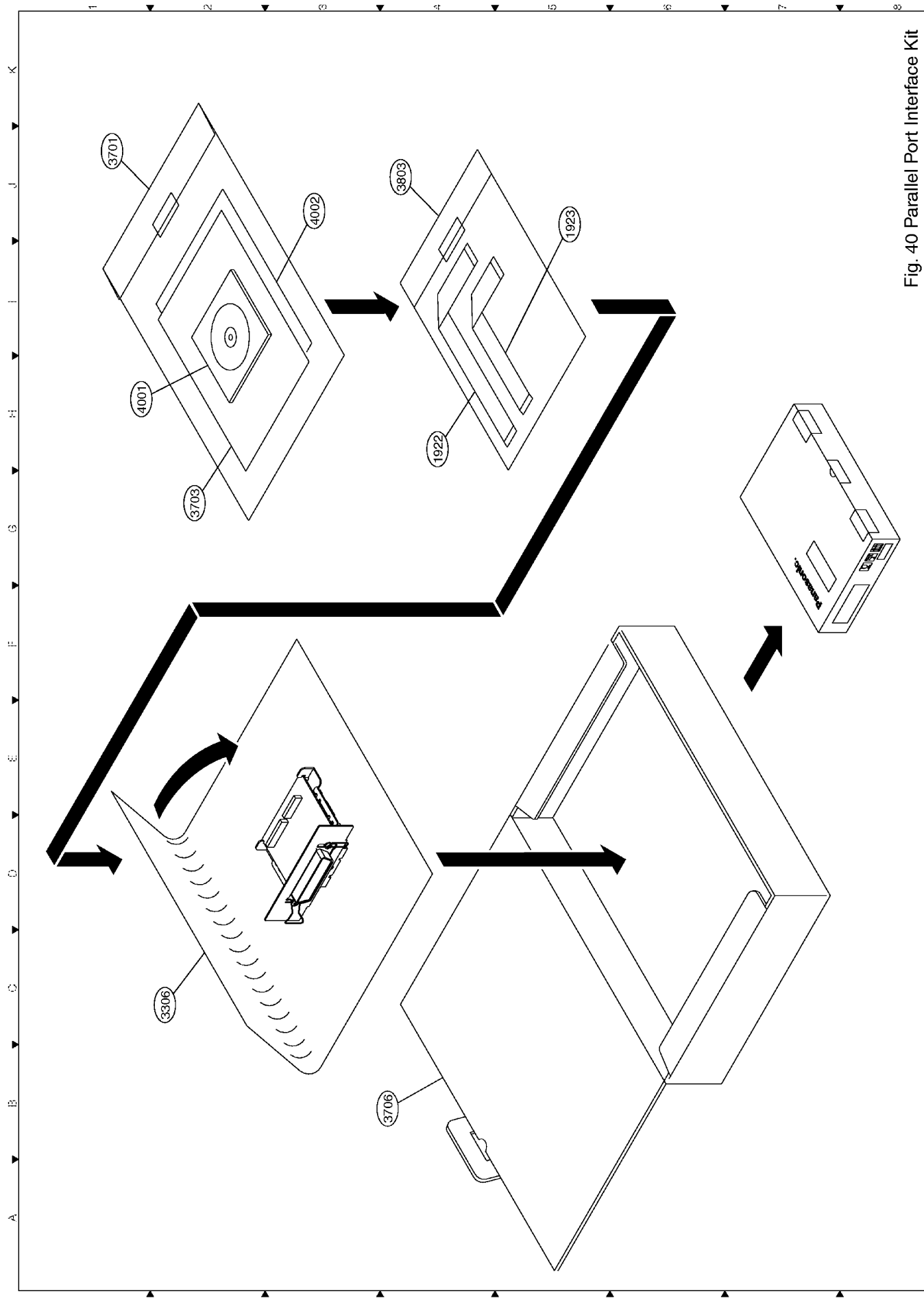


Fig. 40 Parallel Port Interface Kit





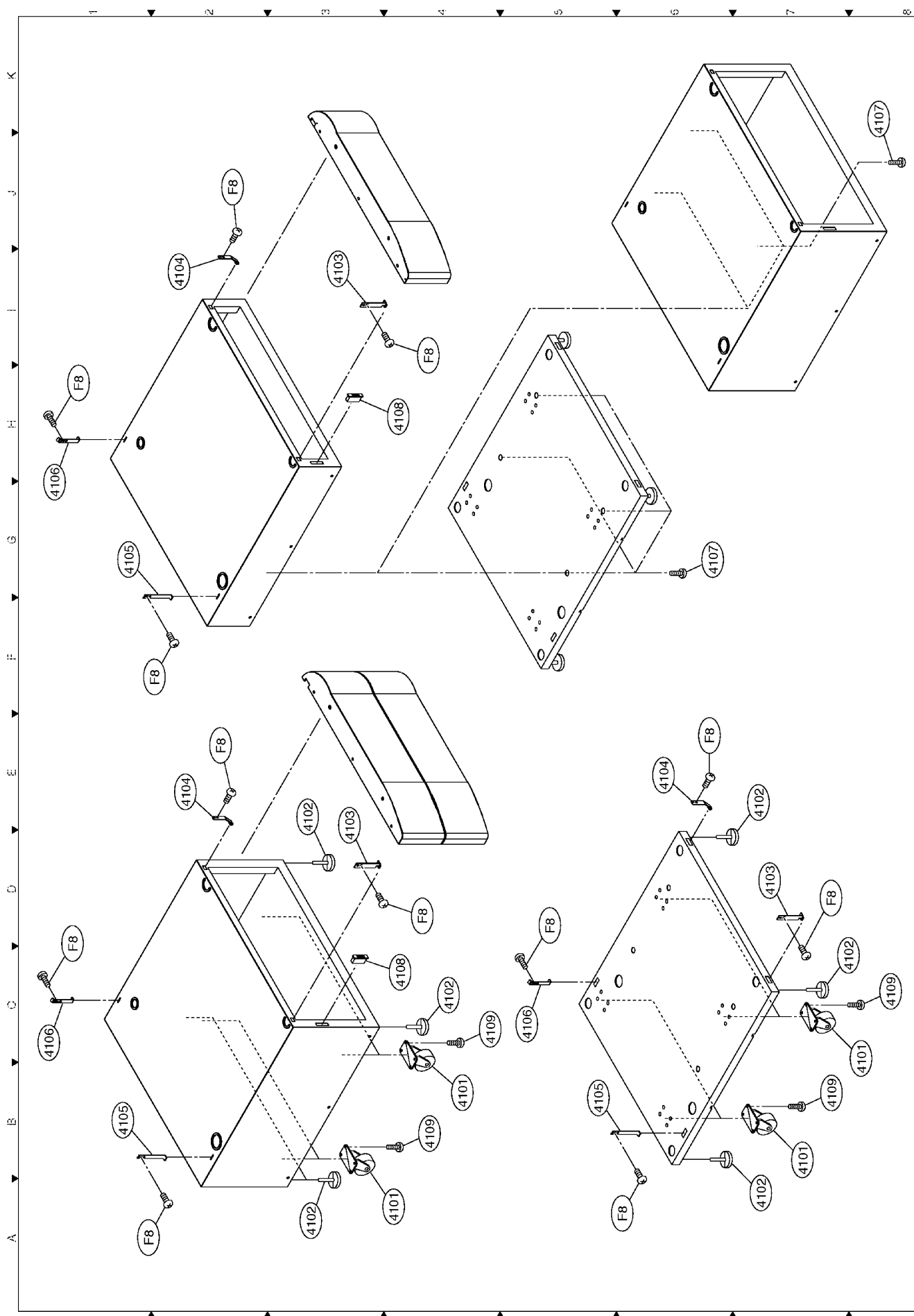


Fig. 41 Stand Hardware (For USA Only)

## 8 Installation

### 8.1. Precautions During Set Up

Copy machine performance and the copy quality is subject to and dependant on environmental conditions. To maintain good performance, quality, and safe operation, observe the following precautions:

1. For safe operation and to avoid trouble, do not install the system under the following conditions:
  - High temperature, high humidity, low temperature or low humidity
  - Sudden changes in temperature or humidity
  - Exposed to direct sunlight
  - Dusty environment
  - Poorly ventilated location
  - Exposed to chemical gases (such as ammonia gas)
  - Exposed to strong vibration
  - Exposed to direct air current (ex. Air conditioner vent)
2. The weight of machine is 220 lb (100 kg) or more with options. It must be installed on a firm and leveled surface.
3. The maximum power consumption is 1.4 kW. Use a dedicated power supply of 120 VAC and 12 A (220-240 VAC and 6 A) or higher. (Do not use an extension cord)
4. Make sure the outlet is properly grounded. (Do not ground to gas or water pipe)
5. Install in an area that meets or exceeds the minimum space requirement.

### 8.2. Unpacking

Visually check the condition and contents of the box for completeness or any shipping damage before installation.

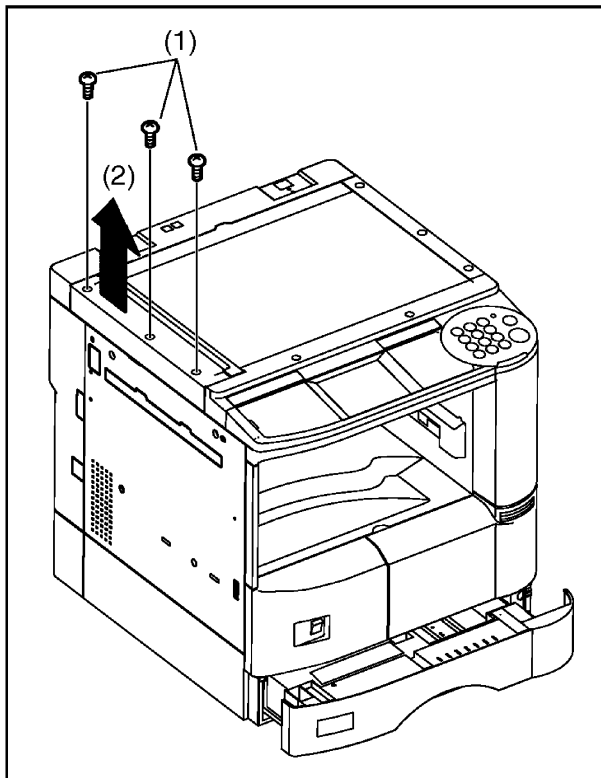
Remove all filament tapes used to secure the Fuser and Process Units during shipment.

### 8.3. Installation Procedure

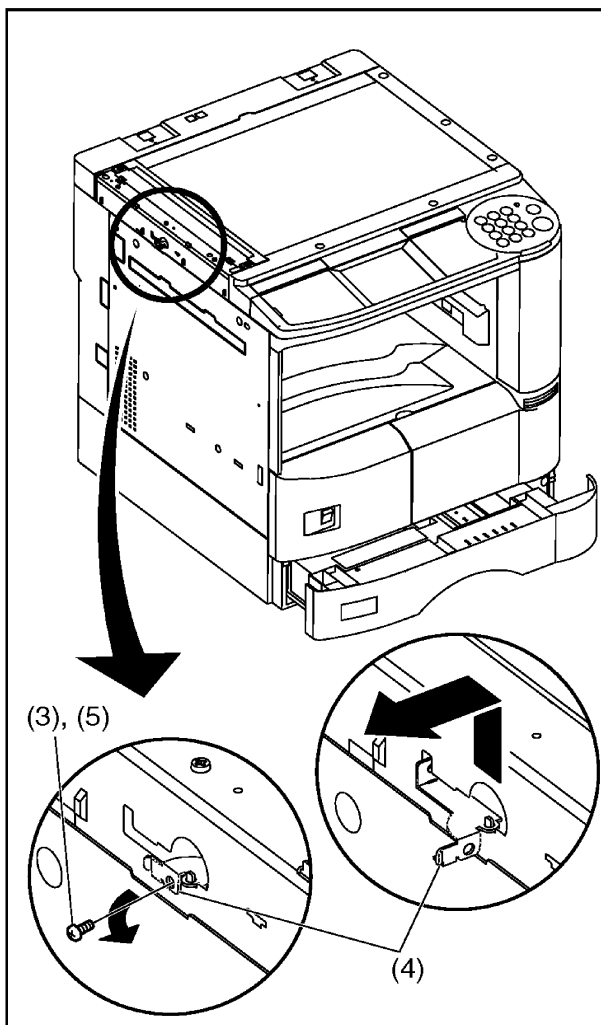
**Note :**

1. Refer to each individual Installation Guide when installing Stands or other Optional Kits.
2. The following machine illustrations, depicts a DP-2000 with a standard configuration of 1 Paper Tray.  
The DP-2500/3000 standard configuration is 2 Paper Trays.

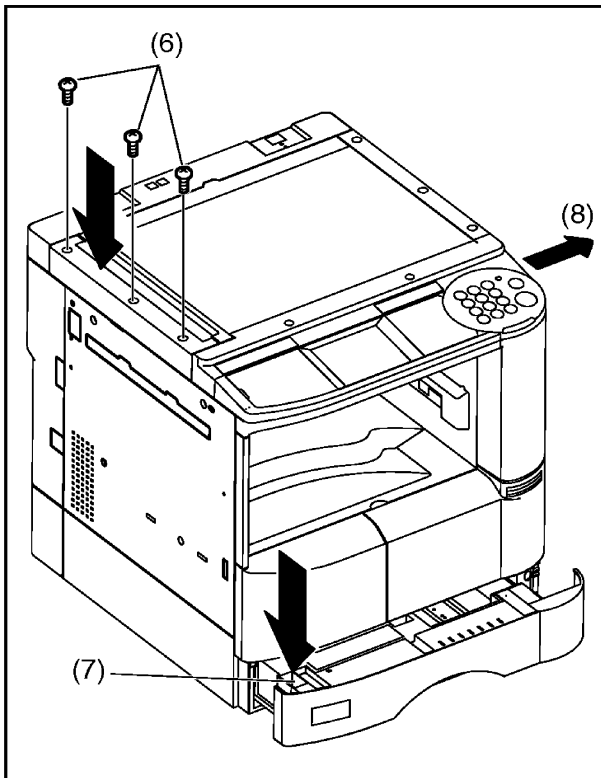
### 8.3.1. Installation Procedure



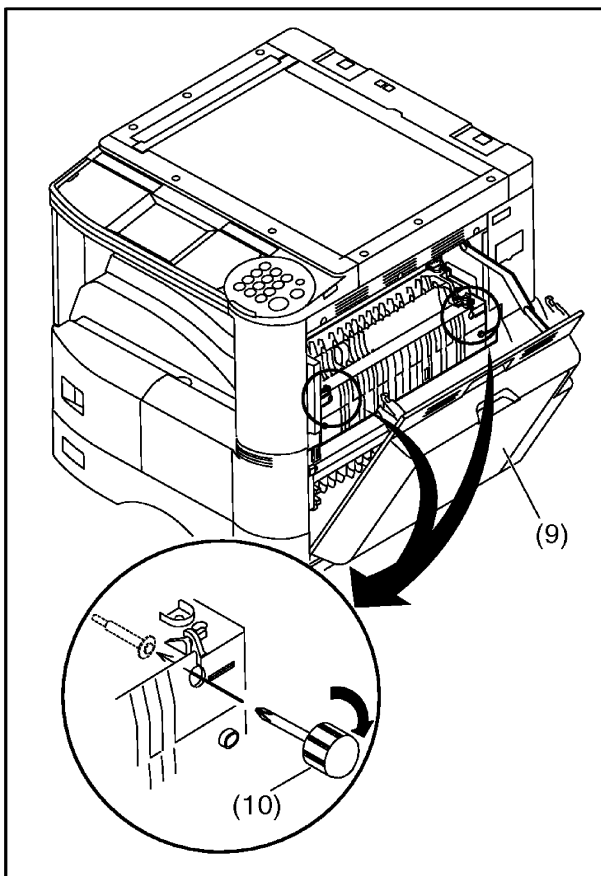
- (1) Remove 3 Screws.
- (2) Remove the Left Platen Cover.



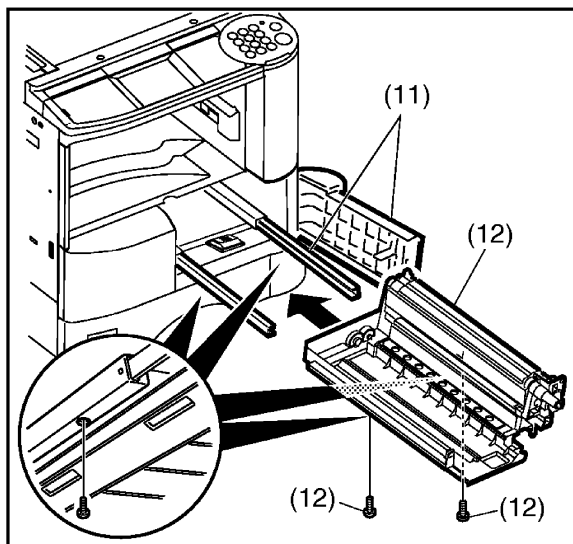
- (3) Remove 1 Blue Screw.
- (4) Remove the shipping metal bracket by rotating counterclockwise.
- (5) Re-install the Blue Screw removed in step (3).



- (6) Re-install the Left Platen Cover and fasten with 3 Screws removed in step 1.
- (7) Put the shipping metal bracket removed in step 4 in the space provided in the Paper Tray.
- (8) Pull out the insulation film from the Battery Holder.



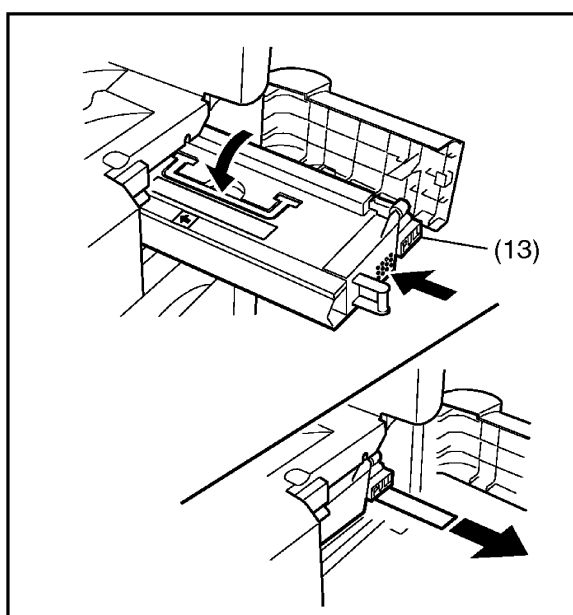
- (9) Open the Right Cover.
- (10) Tighten 2 Screws in the holes located on the Upper Fuser Cover.



- (11) Open the Front Cover, pull out the rails and install the Process Unit.
- (12) Line up the holes under the rails with the mounting holes under the Process Unit and install the 2 Screws (included with the Process Unit) to act as a stopper.

**Note:**

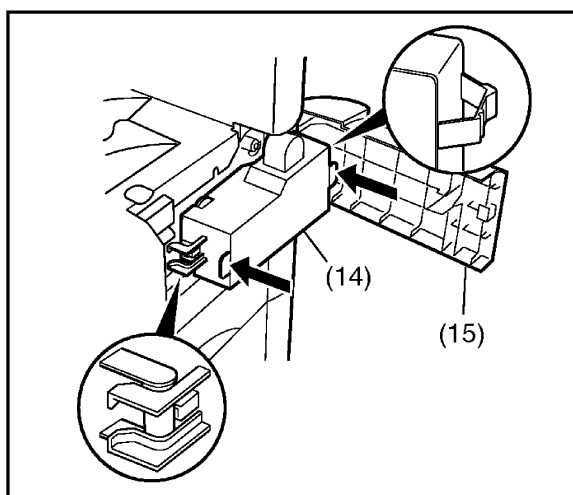
Ensure that the screws recess into the rail holes in order for the Process Unit to smoothly slide on the rails.



- (13) Shake the new Toner Cartridge well. Install it into the machine, and pull out the protective seal.

**Note:**

Pull the seal slowly and straight out.



- (14) Install the Waste Toner Box.
- (15) Close the Front Cover.

Connect the Power Cord and turn the Power Switch ON.

**Note:**

Set the parameter for F5-73 [PM (OPC DRUM)] and/or F5-74 [PM (PROCESS UNIT)] to "User" if the replacement will be done by the user.

## 8.4. Adjustment

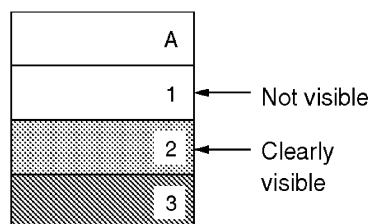
### 8.4.1. Exposure (Standard Adjustment)

The following values will be added to the reference value. DO NOT adjust these codes in the field.

F6-18 : Laser power compensation

F6-19 : Developer bias standard voltage compensation

1. Enter F6 Mode.
2. Ensure that F6-18 and 19 are set to "0".
3. Enter F2 Mode and set the exposure to the center position.  
Set the machine to TEXT / PHOTO Mode.
4. Make a copy of Test Chart 53/54 with gray scale (P/N FQ-SJ1011).
  - a. Gray scale "1" should not be visible.
  - b. Gray scale "2" should be clearly visible.



**Note:**

Skip to step (10) if the density is within specification.

5. Enter F6-50 Mode.
6. Enter the new content.

**Note:**

The "RESET" key is used to enter the "-" content.

(+) : Lighter side

(-) : Darker side

7. Press the "OK" key, then press "CANCEL" key.
8. Enter F2 Mode.
9. Make a copy to confirm the adjustment.

**Note:**

Repeat Step (3) to (9) until proper density is attained.

F6-49 : Text Mode

F6-51 : Photo Mode

10. Press "FUNCTION" and "CLEAR" keys simultaneously to exit the Service Mode.

### 8.4.2. Lead Edge Registration Adjustment (2/3/4th Tray)

1. Press "FUNCTION", "LEDGER / A3 of ORIGINAL SIZE", and "3" keys simultaneously to enter the Service Mode.
2. Enter F6-05 Mode.
3. Enter the new content.

**Note:**

The "RESET" key is used to enter the "-" content.

(+) : Paper feed timing is delayed.

(-) : Paper feed timing is advanced.

4. Press the "OK" key, then press "CANCEL" key.
5. Enter F2 Mode.
6. Make a copy to confirm the adjustment. Perform Step (3) again, if necessary.
7. Press "FUNCTION" and "CLEAR" keys simultaneously to exit the Service Mode.

### 8.4.3. Lead Edge Registration Adjustment (ADU)

#### Lead Edge Registration Adjustment (ADU) for DP-2000

1. Place Test Chart 53/54 on the Platen Glass.
2. Select the "2-SIDED/ORIG->COPY" Mode.
3. Select "1 -> 2" function.
4. Select "Long edge" bind position.
5. Press the "SET" key
6. Press the "START" key.
7. The 1st side of the Test Chart is scanned, and "ANOTHER ORIGINAL?" appears on the Control Panel display. Remove the Test Chart from the Platen Glass and close the ADF.
8. Press the "1" key.
9. Press the "START" key.
10. After the copy of the Test Chart is printed (1-Sided), check the Lead Edge Registration (use the leading edge scale indicators on the Test Chart).

**Note:**

The copier's leading edge void area is approximately 1 ~ 4 mm.

11. If adjustment is required, press "FUNCTION", ORIGINAL Size "LEDGER/A3", and "3" keys simultaneously to enter the Service Mode.
12. Select F6-06 [REGIST. (ADU)] Mode.
13. Enter the required adjustment value using the keypad (-30 ~ +30).

**Note:**

A value of "1", shifts the image by approximately 0.25 mm.

Press the "RESET" key to change the number to "-" or "+".

- Use (+) : If paper feed timing is delayed. The image is advanced (cut off at the leading edge).
- Use (-) : If paper feed timing is advanced. The image is delayed (cut off at the trailing edge).

**EX:**

If the customer requires 4 mm void and your measurement shows 2.5 mm from the leading edge of image to the edge of paper, the image is advanced by 1.5 mm (4 mm - 2.5 mm = 1.5 mm), enter a value of +6 (0.25 mm x 6 = 1.5 mm) for the adjustment.

14. Press the "SET" key.
15. Press the "CLEAR" key.
16. Press the "FUNCTION" and "CLEAR" keys simultaneously to exit from the Service Mode.
17. Repeat Steps 1 ~ 10 and confirm the adjustment. If additional adjustment is required, repeat Steps 1 ~ 16.



## Lead Edge Registration Adjustment (ADU) for DP-2500/3000

1. Place Test Chart 53/54 on the Platen Glass.
2. Select the "2-SIDED/ORIG->COPY" Mode.
3. Select "1 -> 2" function.
4. Select "Long edge" bind position.
5. Press the "OK" key.
6. Press the "START" key.
7. The 1st side of the Test Chart is scanned, and "ANOTHER ORIGINAL?" appears on the touch panel display. Remove the Test Chart from the Platen Glass and close the ADF.
8. Press the "YES" key.
9. Press the "START" key.
10. After the copy of the Test Chart is printed (1-Sided), check the Lead Edge Registration (use the leading edge scale indicators on the Test Chart).

### Note:

The copier's leading edge void area is approximately 1 ~ 4 mm.

11. If adjustment is required, press "FUNCTION", ORIGINAL Size "LEDGER/A3", and "3" keys simultaneously to enter the Service Mode.
12. Select F6-06 [REGIST. (ADU)] Mode.
13. Enter the required adjustment value using the keypad (-30 ~ +30).

### Note:

A value of "1", shifts the image by approximately 0.25 mm.

Press the "RESET" key to change the number to "-" or "+".

- Use (+) : If paper feed timing is delayed. The image is advanced (cut off at the leading edge).
- Use (-) : If paper feed timing is advanced. The image is delayed (cut off at the trailing edge).

### EX:

If the customer requires 4 mm void and your measurement shows 2.5 mm from the leading edge of image to the edge of paper, the image is advanced by 1.5 mm ( $4\text{ mm} - 2.5\text{ mm} = 1.5\text{ mm}$ ), enter a value of +6 ( $0.25\text{ mm} \times 6 = 1.5\text{ mm}$ ) for the adjustment.

14. Press the "OK" key.
15. Press the "CANCEL" key.
16. Press the "FUNCTION" and "CLEAR" keys simultaneously to exit from the Service Mode.
17. Repeat Steps 1 ~ 10 and confirm the adjustment. If additional adjustment is required, repeat Steps 1 ~ 16.

## 9 Options and Supplies

### 9.1. Installing the Electronic Sorting Board (DA-ES200) [For DP-2000 only]

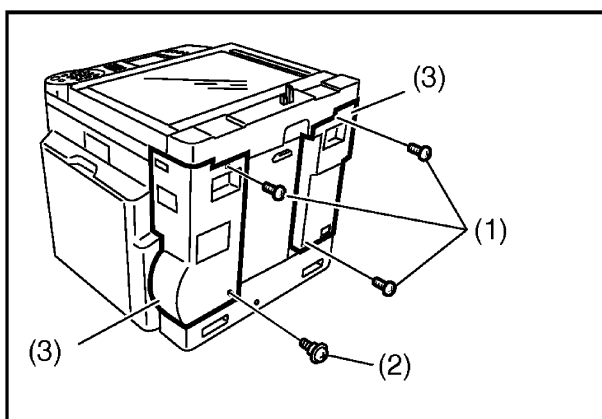
#### 9.1.1. Contents

Qty.	Description	Part No.	Remarks
1	SORT PC Board	DZEC101632	
1	Locking Spacer	DZJH000063	
2	Screw	XTB3+8J	
1	Installation Guide	DZSM000300	This document

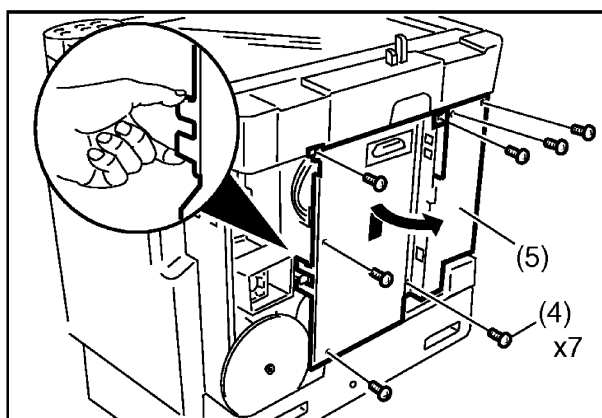
#### 9.1.2. Installation

**Note:**

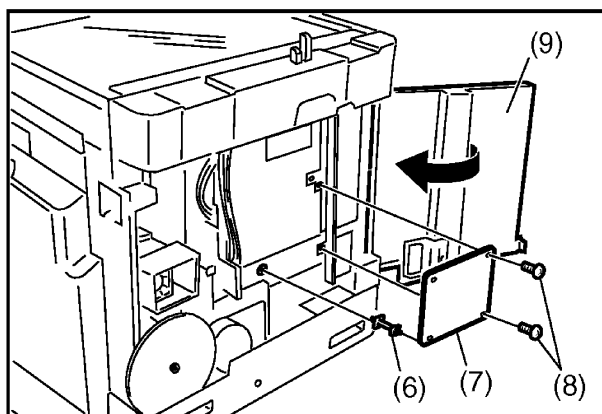
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.



- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



- (6) Insert the Locking Spacer into the hole on the SORT PC Board as illustrated on the left.
- (7) Install the SORT PC Board to the SC PCB.

**Note:**

If you are planning on installing additional Sorting Image Memory (8, 16, 128 MB), you should install it on the SORT PCB first.

- (8) Secure the SORT PC Board with 2 Screws.
  - (9) Proceed with the installation of other options.
- If finished, close and secure the Rear Plate and re-install the remaining Covers.

## 9.2. Installing the Fax Communication Kit (DA-FG230)

### 9.2.1. Contents

Qty.	Description	Part No.	Remarks
1	FXB PC Board	See Note	
1	LCU PC Board	DZEC101791	For USA/Canadian models
	LCE PC Board	See Note	For European models
1	LCU1 Harness	DZFP000880	
1	Line1 Label	See Note	
2	Circuit Seal	DZNK003066	For USA/Canadian models
5	Screw	XTB3+8J	
1	Speaker Assembly	DZHP004039	
1	SPK2 Harness	DZFP000911	
1	Speaker Bracket	DZKP000196	
1	Line Cord	See Note	
1	Type Approval Label	N/A	For certain countries only
1	Operating Instructions (FAX)	See Note	
1	Directory Sheet	See Note	For DP-2000 only
1	Fax Function Label	See Note	For DP-2000 only
1	Installation Guide	DZSM000306	This document

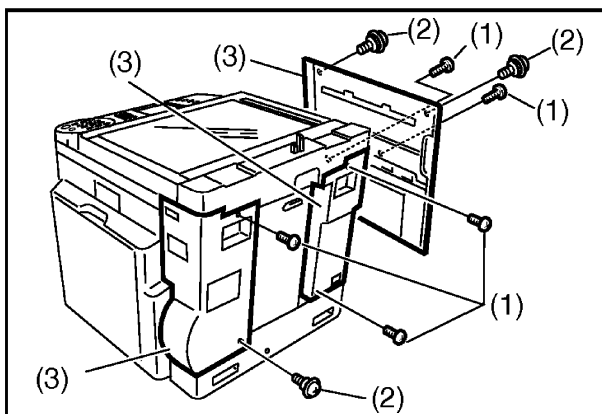
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

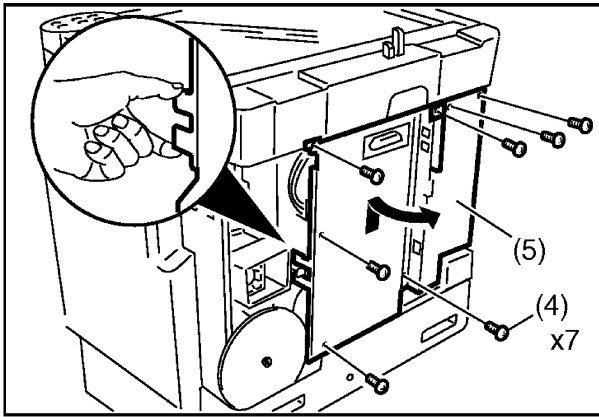
### 9.2.2. Installation

**Note:**

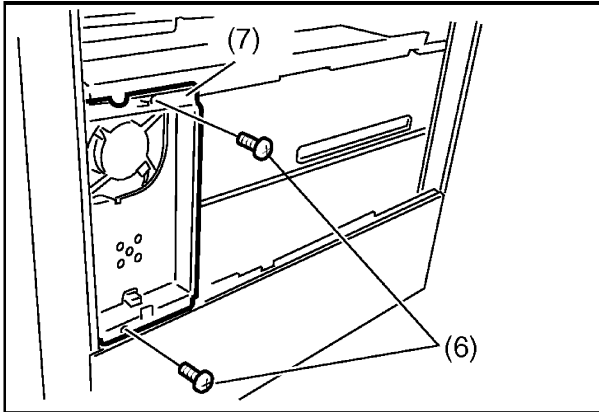
1. Make sure that the Electronic Sorting Board (DA-ES200) has already been installed.  
(For DP-2000 only)
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



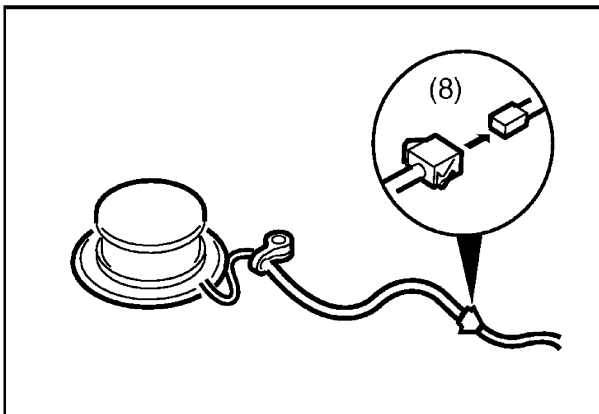
- (1) Remove 5 Screws (Silver).
- (2) Remove 3 Shoulder Screws (Silver).
- (3) Remove the Left Rear Cover, Right Rear Cover and Left Side Cover.



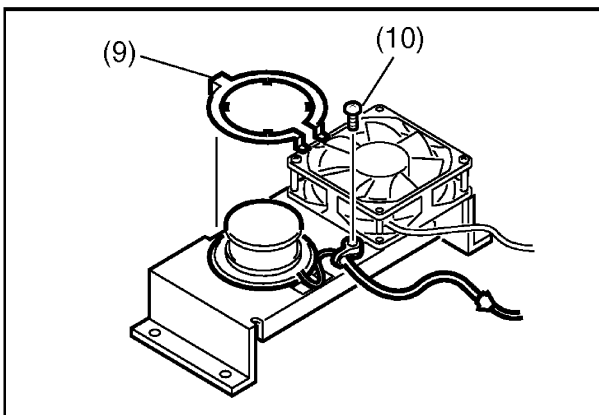
- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



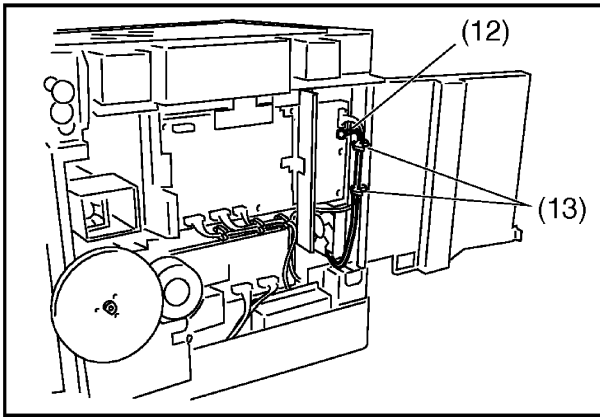
- (6) Remove 2 Screws.
- (7) Remove the FS Bracket.



- (8) Connect the Speaker Harness and SPK2 Harness as illustrated on the left.



- (9) Place the Speaker Assembly on the top of the FS Bracket and secure the Speaker Assembly with the Speaker Bracket as illustrated on the left.
- (10) Secure the Speaker Harness with 1 Screw.  
**Note:**  
 Do not omit this step.
- (11) Re-install the FS Bracket.

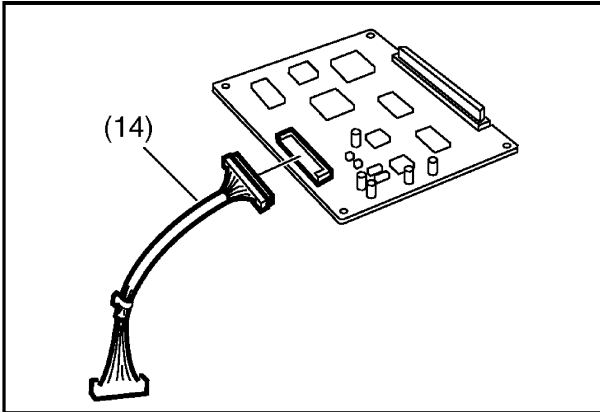


- (12) Connect the SPK2 Harness to CN125 located on the upper right hand side of the SC PC Board.

**Caution:**

Connecting the Speaker into Connector CN118 will damage the SC PC Board.

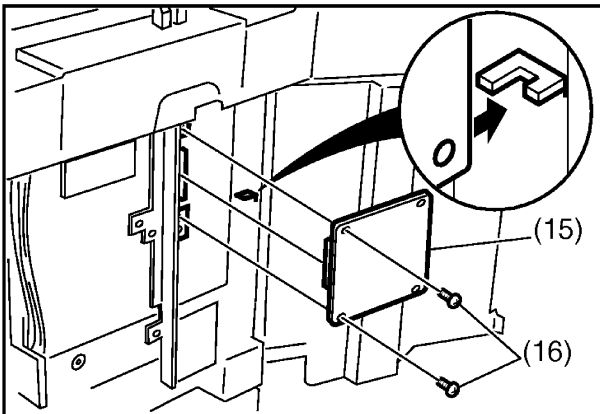
- (13) Place the SPK2 Harness into the 2 clamps.



- (14) Connect the LCU1 Harness to CN161 on the FXB PC Board.

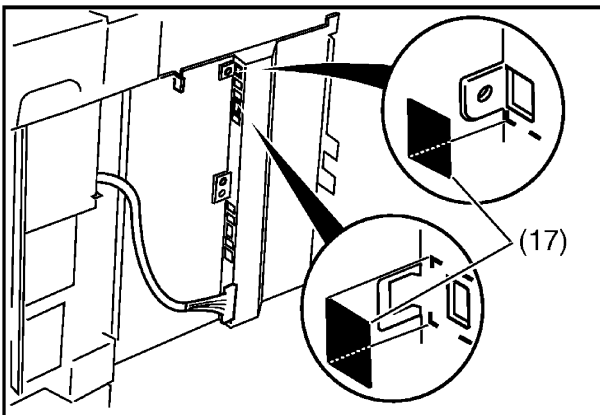
**Note:**

Make sure the insulation side of the Harness is plugged into the FXB PC Board.

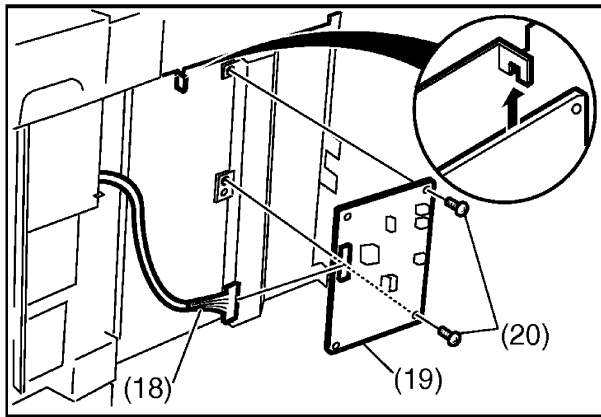


- (15) Install the FXB PC Board to the SC PCB.

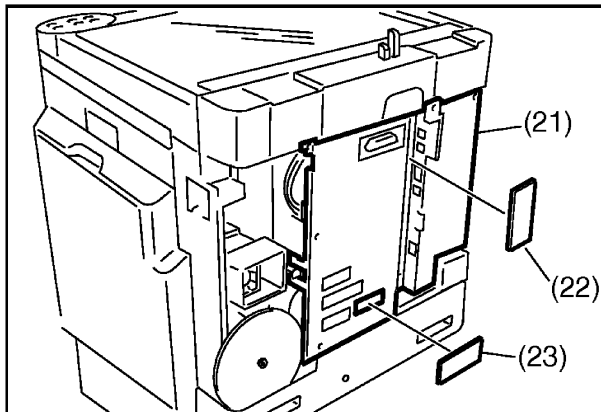
- (16) Secure the FXB PC Board with 2 Screws.



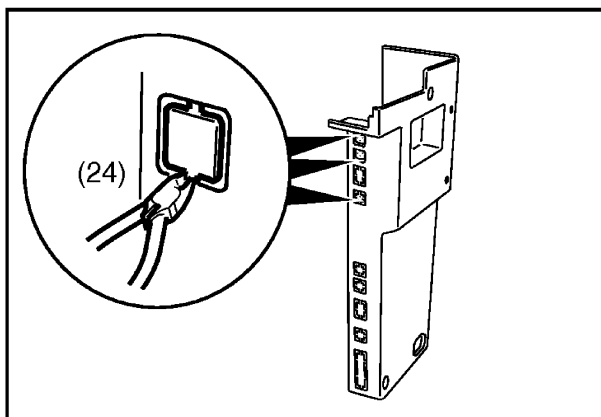
- (17) Paste the 2 Circuit Seals onto the Rear Plate from the inside as illustrated on the left.  
(For USA and Canada only)



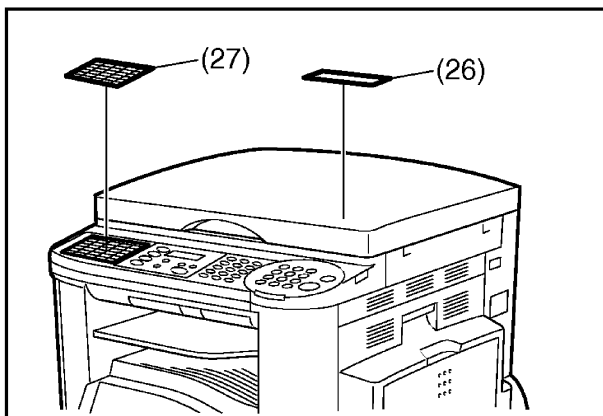
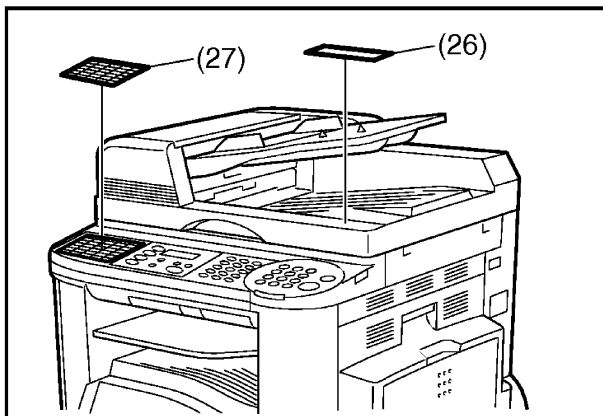
- (18) Connect the LCU1 Harness from the FXB PCB to CN25 on the LCU/LCE PC Board.
- (19) Install the LCU/LCE PC Board to the Rear Plate.
- (20) Secure the LCU/LCE PC Board with 2 Screws.



- (21) Close the Rear Plate.
- (22) Paste the Line1 Label, aligning with the hallmark on the Rear Plate.
- (23) Paste the Type Approval Label as illustrated on the left. (For certain countries only)

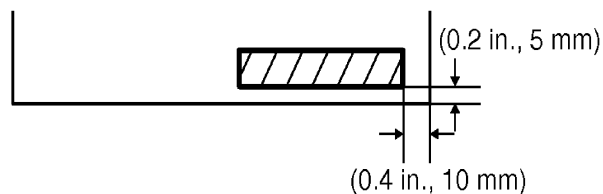


- (24) Break off 3 protective tabs on the Left Rear Cover.
- Note:**  
Remove top tab if only connecting a phone line.
- (25) Proceed with the installation of other options. If finished, secure the Rear Plate and re-install the remaining Covers.



**< For DP-2000 only >**

(26) Paste the Fax Function Label on the Automatic Document Feeder or the Platen Cover as shown below.



(27) Remove the Copier Mode Sheet and replace it with the Directory Sheet.

(28) Execute Parameter Initialize (Service Mode 6).

(29) Set the Function Parameter #005 (Country Code) for your country.

**Note:**

It is not necessary to set the parameter for the following model suffix (countries). The Fax Firmware is automatically loaded with the Host Firmware.

- PA** : Australia
- PB** : UK
- PF** : France
- PG** : Switzerland
- PK** : China
- PL** : Portuguese
- PM** : Germany
- PS** : Sweden
- PT** : Taiwan
- PU** : USA / Canada
- PV** : Netherlands
- PX** : Spain
- PE** : Other Countries 1
- PQ** : Other Countries 2
- PY** : Other Countries 3

## 9.3. Installing the 2nd G3 Fax Communication Port Kit (DA-FG231)

### 9.3.1. Contents

Qty.	Description	Part No.	Remarks
1	G3B PC Board w/FRM PCB	See Note	
1	LCU PC Board	DZEC101791	For USA/Canadian models
	LCE PC Board	See Note	For European models
1	G3B Harness	See Note	
1	Harness Clamp	DZJK000005	
1	G3 Port Label 2	DZNK002800	
1	Line Cord	See Note	
1	Type Approval Label	N/A	For Taiwan, NZ & China only
1	Circuit Seal	DZNK003066	For USA/Canadian models
4	Screw	XTB3+8J	
1	Installation Guide	DZSM000312	This document

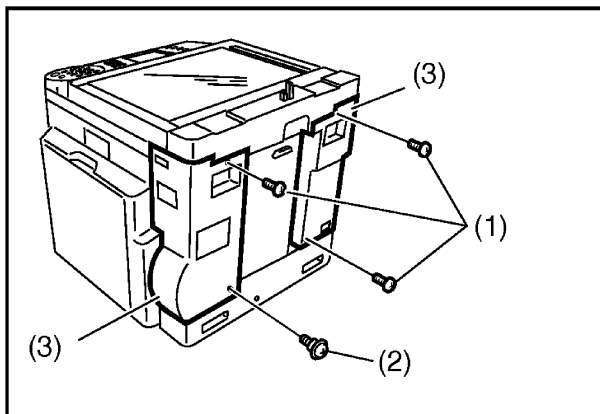
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

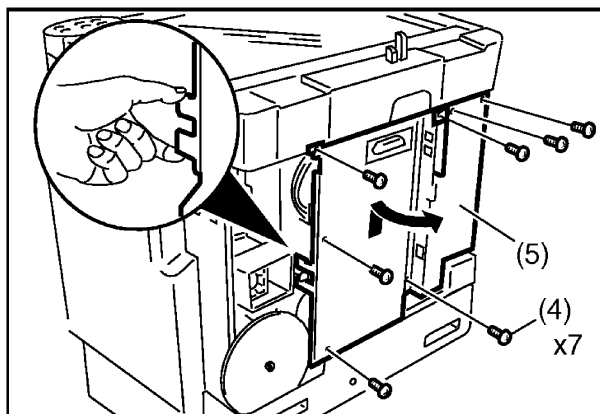
### 9.3.2. Installation

**Note:**

1. Make sure that the Fax Communication Kit (DA-FG230) has been installed before installing this optional kit.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.

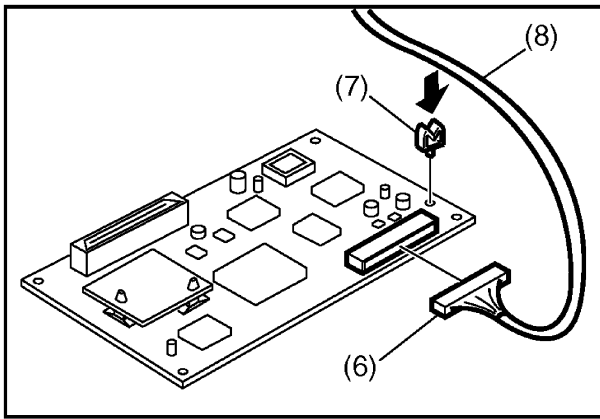


- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.

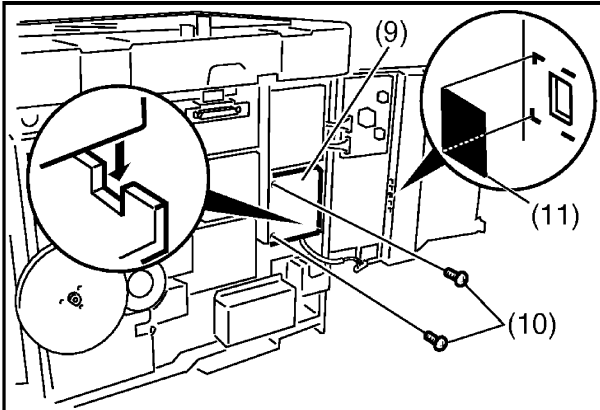


- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.

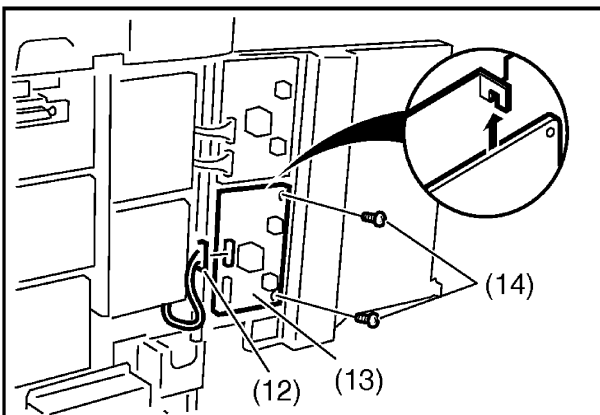




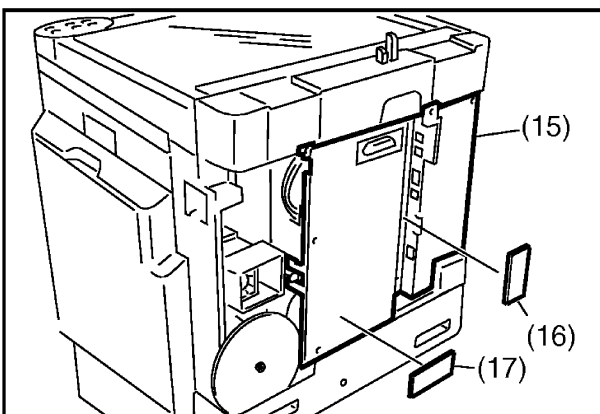
- (6) Connect the G3B Harness to CN132 on the G3B PC Board.
- (7) Insert the Harness Clamp into the mounting hole on the G3B PC Board.
- (8) Place the G3B Harness into the Harness Clamp.



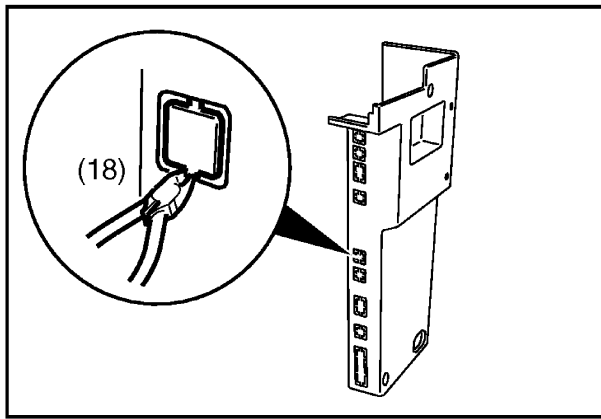
- (9) Install the G3B PC Board.
- (10) Secure the G3B PC Board with 2 screws.
- (11) Paste the Circuit Seal over the rectangular hole on the Rear Plate from the inside as illustrated on the left. (For USA and Canada only)



- (12) Connect the G3B Harness to CN25 on the LCU/ LCE PC Board.
- (13) Install the LCU/LCE PC Board to the SC PCB.
- (14) Secure the LCU/LCE PC Board with 2 Screws.



- (15) Close the Rear Plate.
- (16) Paste the G3 Port Label 2, aligning with the hallmark on the Rear Plate.
- (17) Paste the Type Approval Label as illustrated on the left. (For Taiwan, New Zealand and China only)



- (18) Break off the LINE protective tab on the Left Rear Cover only.
- (19) Proceed with the installation of other options. If finished, secure the Rear Plate and re-install the remaining Covers.

## 9.4. Installing the 10/100 Ethernet Interface / Internet Fax Kit (DA-NE200)

### 9.4.1. Contents

Qty.	Description	Part No.	Remarks
1	LANB PC Board	See Note	Requires Host firmware V2.00 or later
1	LANB-LANC Harness	DZFP000898	
1	LANC-BK Assembly	DZHP004034	
2	Harness Clamp	DZJK000005	
1	LAN Port Label	DZNK002858	
3	Screw	XTB3+8J	
1	DP-2000 Operating Instructions	See Note	
1	DP-2500/3000 Operating Instructions	See Note	
1	Installation Guide	DZSM000320	This document

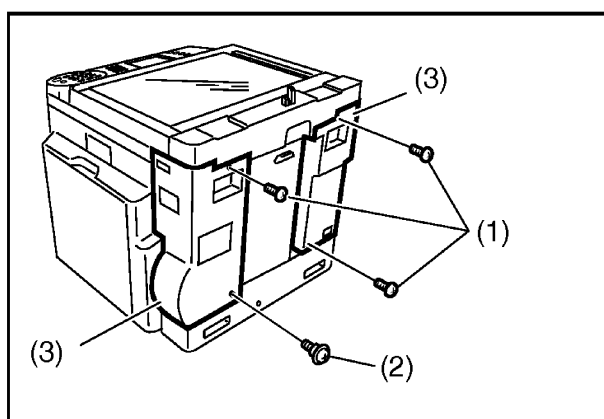
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

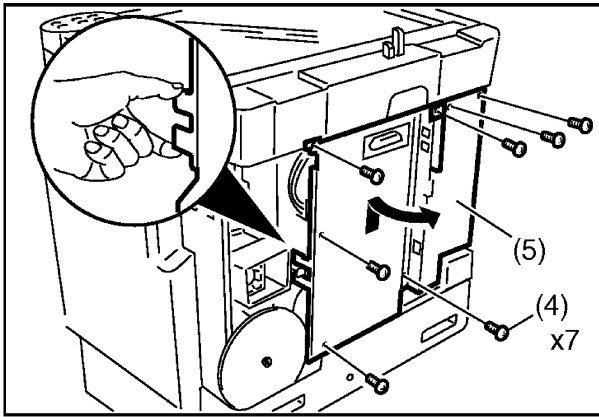
### 9.4.2. Installation

**Note:**

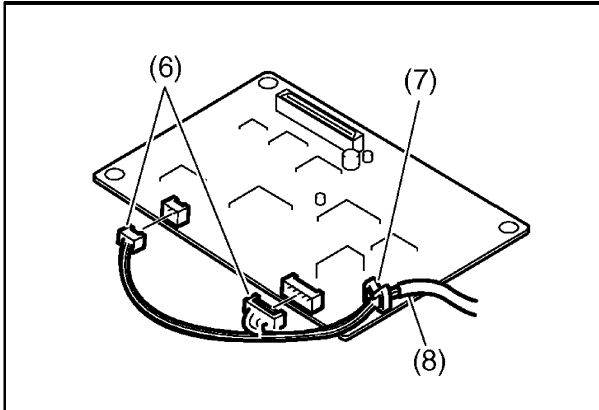
1. Before starting the installation, prepare the Master Firmware Card with the appropriate Host Firmware (Refer to Sec. 3.4. of the Service Manual)
2. If the machine will be used as an Internet Fax, make sure that the Fax Communication Kit (DA-FG230) has been installed before installing this optional kit. The Fax Communication Kit (DA-FG230) is not required, if the machine will only be used as a Network Printer.
3. For DP-2000, make sure the Electronic Sorting Board (DA-ES200) is installed with this optional kit regardless if you are using the machine for Internet Fax or Network Printer.
4. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.
5. If the 2nd G3 Fax Communication Port Kit is already installed, remove it.



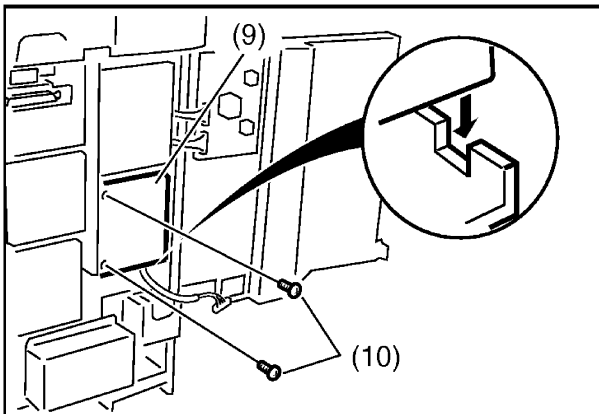
- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.



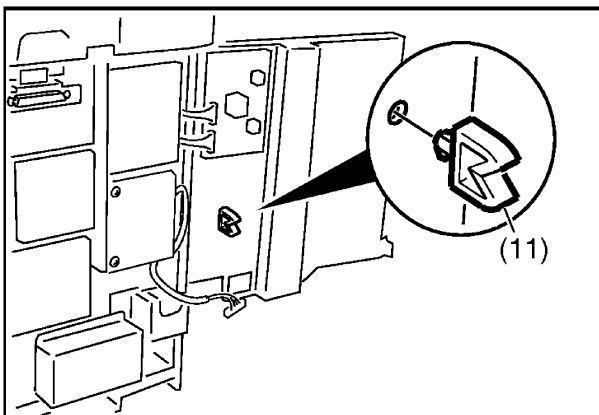
- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



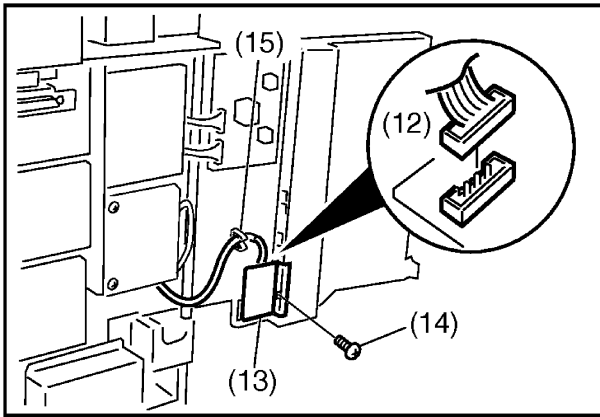
- (6) Connect the LANB-LANC Harness to CN5 and CN6 on the LANB PC Board.
- (7) Insert the Harness Clamp into the mounting hole on the LANB PC Board.
- (8) Place the LANB-LANC Harness into the Harness Clamp.



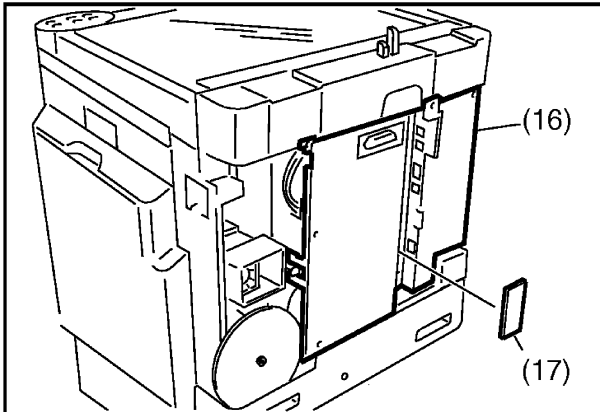
- (9) Install the LANB PC Board.
- (10) Secure the LANB PC Board with 2 Screws.



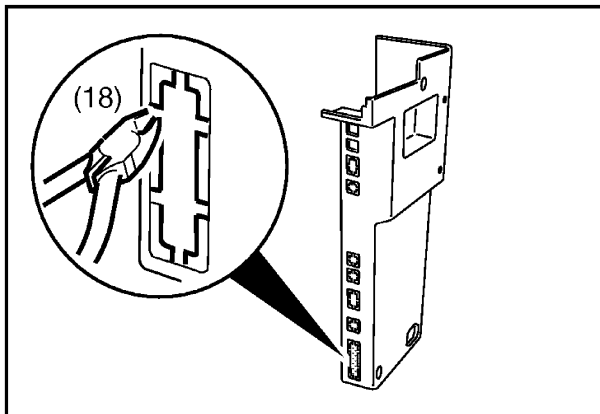
- (11) Insert the Harness Clamp into the mounting hole on the Rear Plate as illustrated on the left.



- (12) Connect the LANB-LANC Harness to CN200 on the LANC PC Board.
- (13) Install the LANC PC Board to the Rear Plate.
- (14) Secure the LANC PC Board with 1 Screw.
- (15) Place the LANB-LANC Harness into the Harness Clamp.



- (16) Close the Rear Plate.
- (17) Paste the LAN Port Label, aligning with the hallmark on the Rear Plate.



- (18) Break off the protective tab on the Left Rear Cover.
- (19) Proceed with the installation of other options. If finished, secure the Rear Plate and re-install the remaining Covers.

## 9.5. Installing the Handset Kit (UE-403171/UE-403172) and the Handset Mounting Kit (UE-408004-AU)

### 9.5.1. Contents

#### < UE-403171/UE-403172 >

Qty.	Description	Part No.	Remarks
1	Cradle Assembly	DZML000226	
1	Handset	DADU000027	
1	Handset Cord	DZFN000060	
1	Installation Guide	DZSM000254	This document

#### < UE-408004-AU >

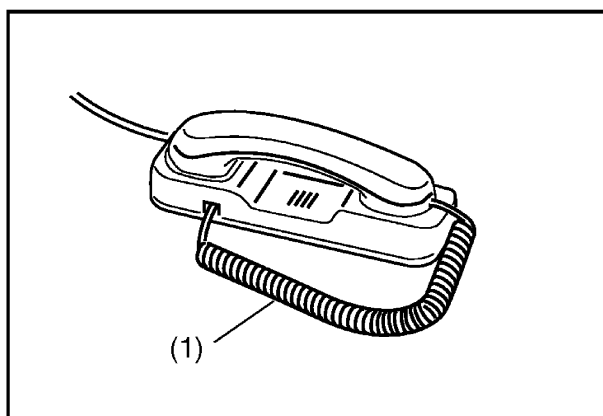
This Handset Mounting Kit is required when 1-Bin Finisher (DA-FS200) is installed.

Qty.	Description	Part No.	Remarks
1	Mounting Bracket 1 (w/ Edging)	DZHP004038	
1	Mounting Bracket 2	DZJA000734	
1	Mounting Bracket 3	DZJA000773	
1	Screw	DZPB000007	Silver
2	Screw	XTB3+8J	Short
3	Screw	XTB3+14J	Long
1	Installation Guide	DZSM000386	This document

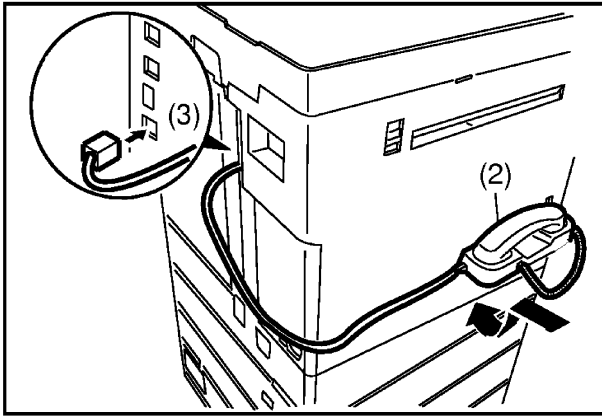
### 9.5.2. Installation of the Handset Kit only

#### Note:

1. Make sure that the Fax Communication Kit (DA-FG230) has been installed before installing this optional kit.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Connect the Handset Cord to the Cradle Assembly and the Handset as illustrated on the left.

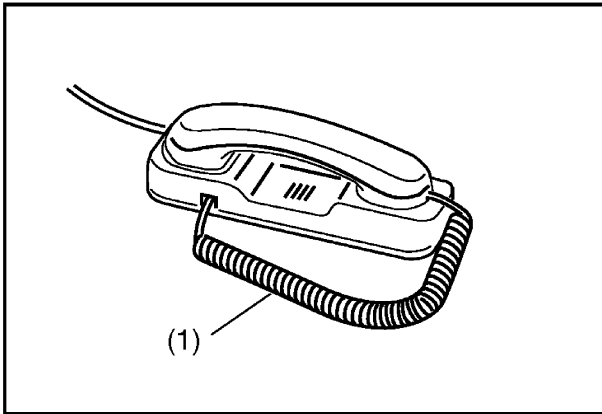


- (2) Hook the projections of the Cradle Assembly into the holes on the Left Side Cover.
- (3) Connect the cable from the Cradle Assembly to the Handset Jack of the LCU/LCE PC Board on the rear of the machine.

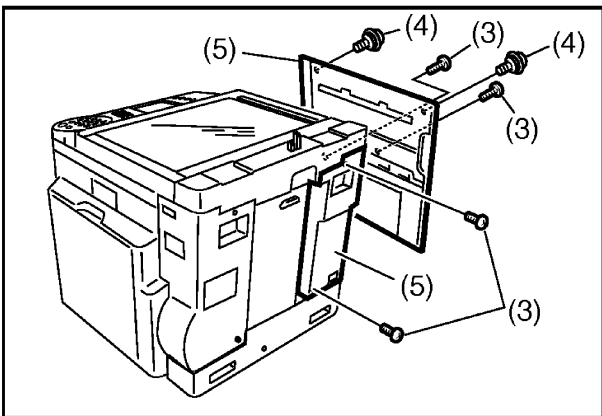
### 9.5.3. Installation when the 1-Bin Finisher is installed

**Note:**

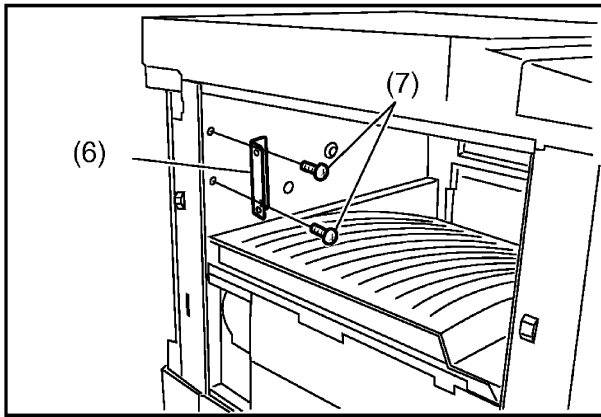
1. Make sure that the Fax Communication Kit (DA-FG230) has been installed before installing this optional kit.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



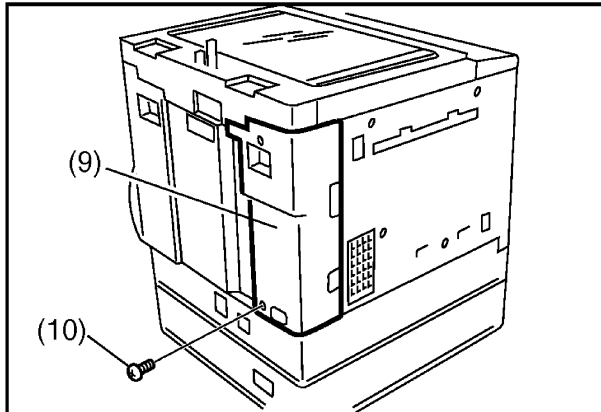
- (1) Connect the Handset Cord to the Cradle Assembly and the Handset as illustrated on the left.



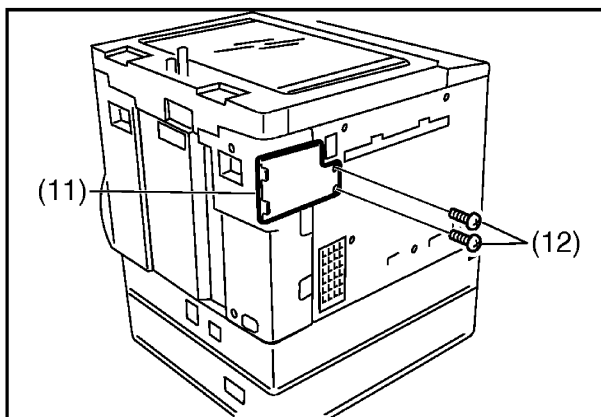
- (2) Remove the 1-Bin Finisher and the Latch Catcher. (Refer to the Installation Guide for the 1-Bin Finisher)
- (3) Remove 4 Screws (Silver).
- (4) Remove 2 Shoulder Screws (Silver).
- (5) Remove the Left Rear Cover and the Left Side Cover.



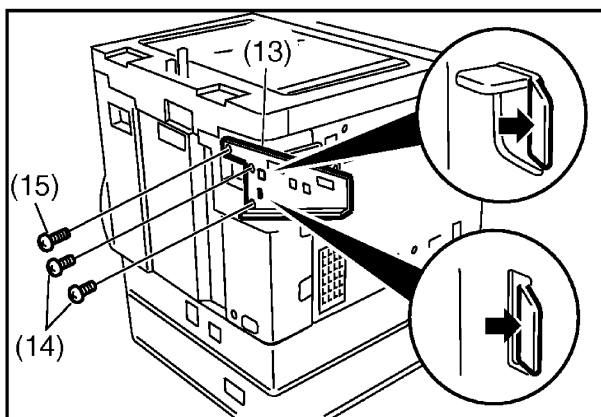
- (6) Position the Mounting Bracket 3 as illustrated on the left.
- (7) Secure the Mounting Bracket 3 with 2 Screws (XTB3+8J).
- (8) Re-install the Left Side Cover.



- (9) Re-install the Left Rear Cover.
  - (10) Secure the Left Rear Cover with 1 Screw (Silver) on the bottom of the Cover as shown on the left.
- Note:**  
Do NOT install the upper screw yet. It is reserved for securing the Mounting Bracket 1 in the step (14), which is not installed at this time.

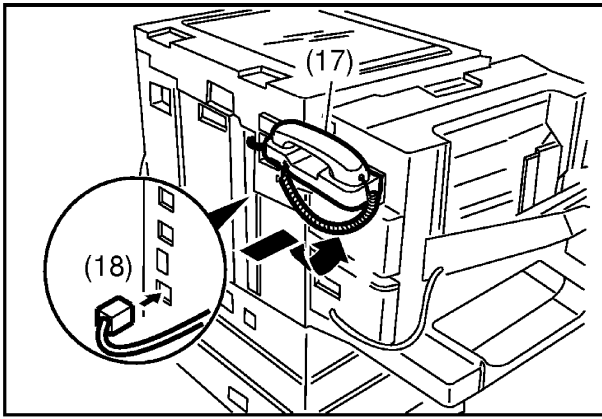


- (11) Position the Mounting Bracket 2 as illustrated on the left.
- (12) Secure the Mounting Bracket 2 with 2 Screws (XTB3+14J Silver).



- (13) Position the Mounting Bracket 1 as illustrated on the left.
- (14) Secure the Mounting Bracket 1 with 2 Screws (Silver) (Attached screw - DZPB000007 and the screw which was reserved in the step (10)).
- (15) Secure the Mounting Bracket 1 together with the Left Rear Cover with 1 Screw (XTB3+14J Silver).





- (16) Re-install the 1-Bin Finisher and the Latch Catcher.
- (17) Hook the projections of the Cradle Assembly into the mounting holes on the Mounting Bracket 1.
- (18) Connect the cable from the Cradle Assembly to the Handset Jack of the LCU/LCE PC Board on the rear of the machine.

## 9.6. Installing the Parallel Port Interface Kit (DA-PC200)

### 9.6.1. Contents

Qty.	Description	Part No.	Remarks
1	PRIF Assembly	DZHP004035	
1	PRIF (18-pin) Harness	DZFP000883	
1	PRIF (25-pin) Harness	DZFP000884	
1	Software CD	See Note	Includes Operating Instructions
1	Licence Agreement	See Note	
1	Installation Guide	DZSM000301	This document

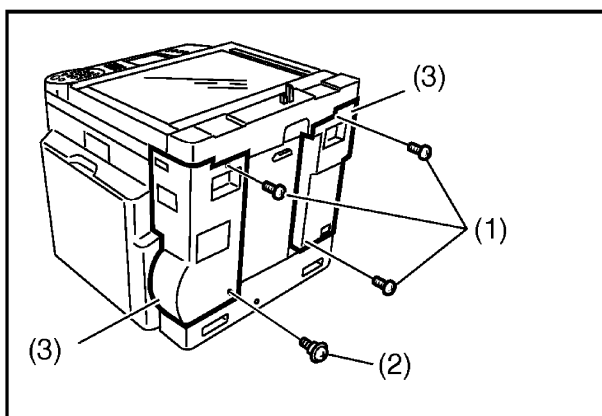
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

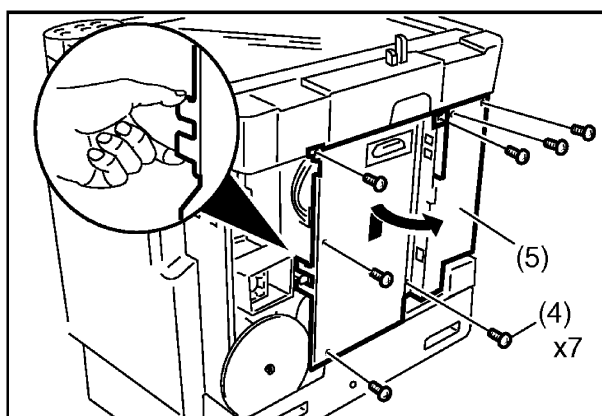
### 9.6.2. Installation

**Note:**

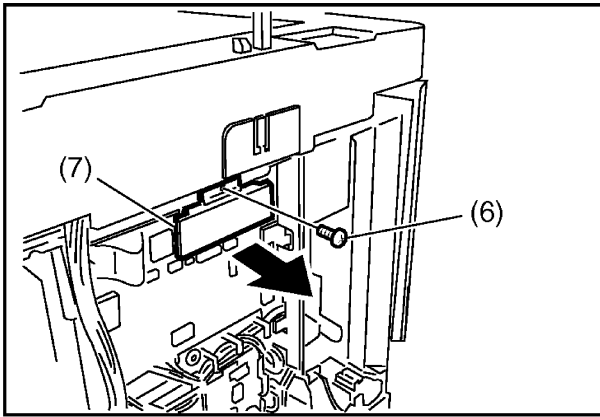
1. Make sure that the Electronic Sorting Board (DA-ES200) has already been installed.  
(For DP-2000 only)
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.



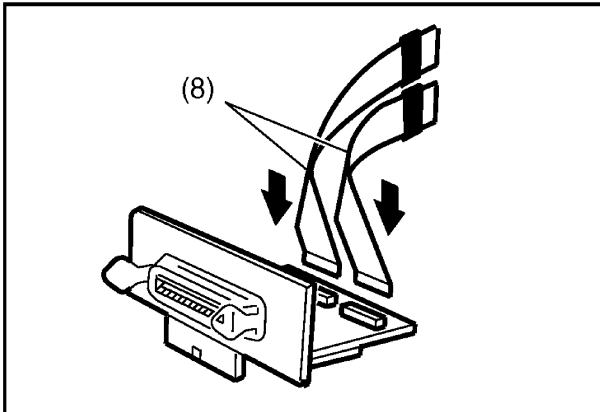
- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



- (6) Remove 1 Screw.
- (7) Remove the PRIF Plate.

**Note:**

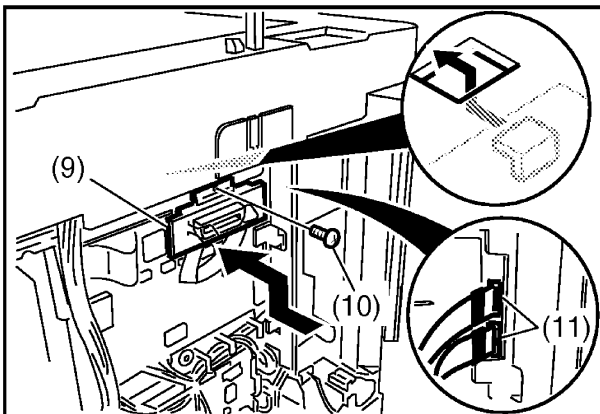
The PRIF Plate will not be needed after installing the Parallel Port Interface.



- (8) Connect the PRIF (18-pin) Harness and PRIF (25-pin) Harness as follows:
  - PRIF (18-pin) Harness: CN211 on PRIF PCB
  - PRIF (25-pin) Harness: CN212 on PRIF PCB

**Note:**

The side with the Blue stripe should be facing the Parallel Port Connector.



- (9) Install the PRIF Assembly.
- (10) Secure the PRIF Assembly with 1 Screw which was removed in the step (6).
- (11) Connect the Harnesses to the SC PCB.
  - PRIF (18-pin) Harness: CN116 on SC PCB
  - PRIF (25-pin) Harness: CN115 on SC PCB
- (12) Proceed with the installation of other options.  
If finished, close and secure the Rear Plate and re-install the remaining Covers.

## 9.7. Installing the PCL6 Emulation Kit (DA-PC210)

### 9.7.1. Contents

Qty.	Description	Part No.	Remarks
1	EP PC Board w/FRM PCB	DZEC101289	Requires Host firmware V2.00 or later
1	Locking Spacer	DZJH000007	
2	Screw	XTB3+8J	
1	Software CD	See Note	Includes Operating Instructions
1	Licence Agreement	See Note	
1	Installation Guide	DZSM000318	This document

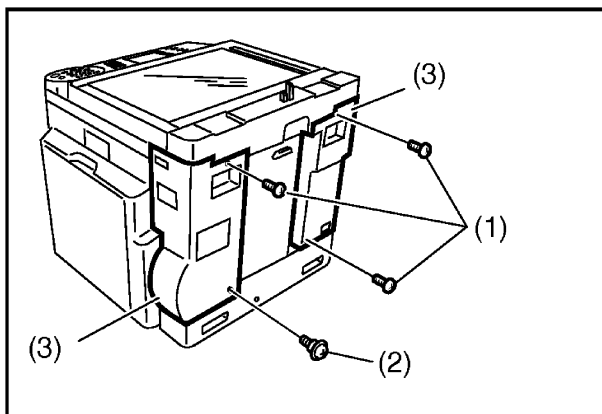
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

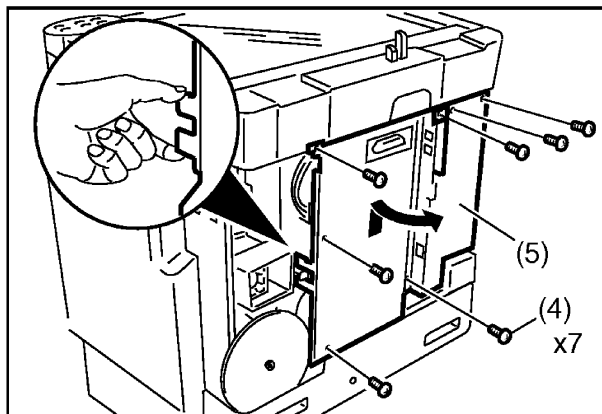
### 9.7.2. Installation

**Note:**

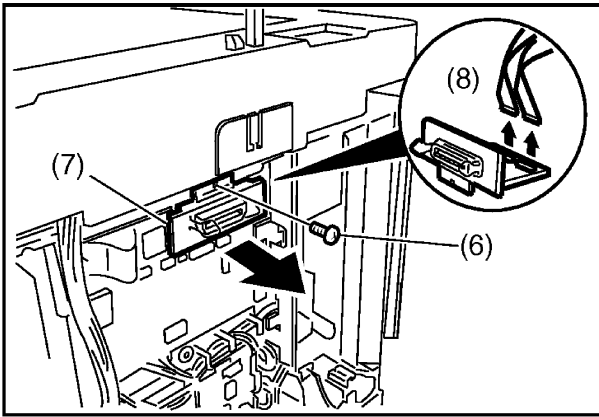
1. Make sure that the Parallel Port Interface Kit (DA-PC200) or the 10/100 Ethernet Interface / Internet Fax Kit (DA-NE200) is installed or will be installed following the PCL6 Emulation Kit.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.

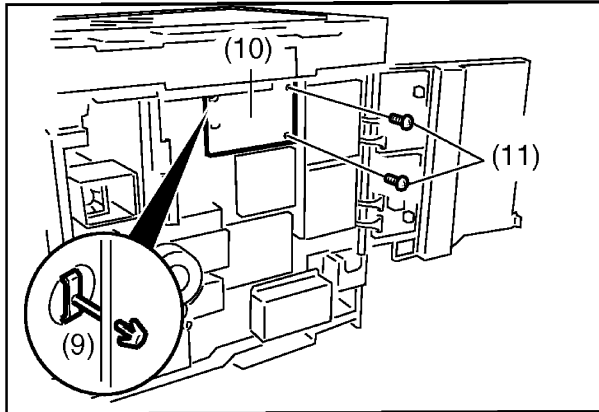


- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



**When the Parallel Port Interface Kit has already been installed**

- (6) Remove 1 Screw.
- (7) Remove the PRIF Assembly.
- (8) Disconnect the PRIF Harnesses on the PRIF PC Board.



- (9) Insert the Locking Spacer into the mounting hole on the EP PC Board Assembly and the machine chassis.
  - (10) Install the EP PC Board Assembly.
  - (11) Secure the EP PC Board Assembly with 2 Screws.
  - (12) Re-install the PRIF Assembly.
  - (13) Proceed with the installation of other options.
- If finished, close and secure the Rear Plate and re-install the remaining Covers.

## 9.8. Installing the Sorting Image Memory 8/16/128 MB (DA-SM08B/16B/28B)

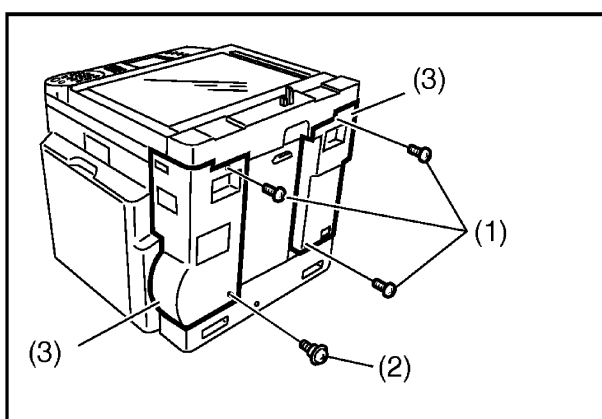
### 9.8.1. Contents

Qty.	Description	Part No.	Remarks
1	SDRM PC Board	DZEC101554	8 MB
		DZEC101666	16 MB
		DZEC101667	128 MB
1	Installation Guide	DZSM000262	This document

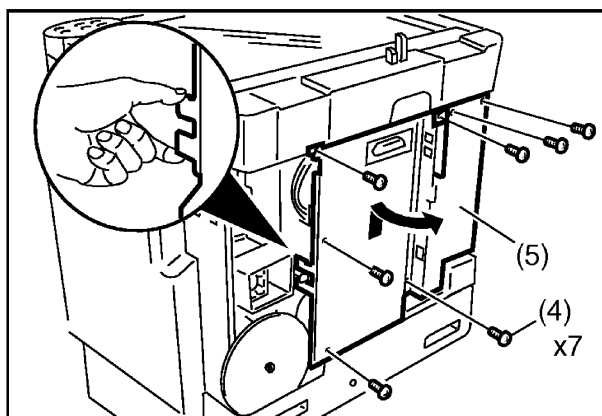
### 9.8.2. Installation

**Note:**

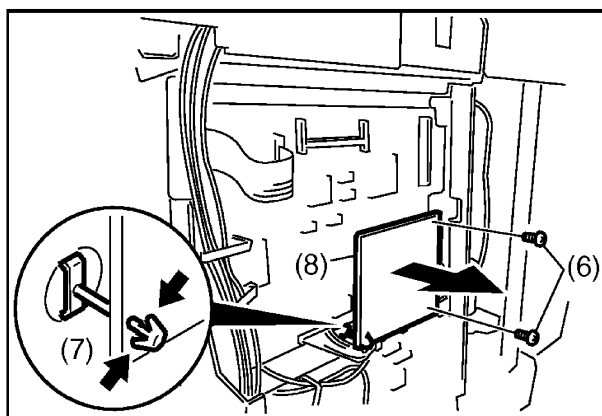
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.

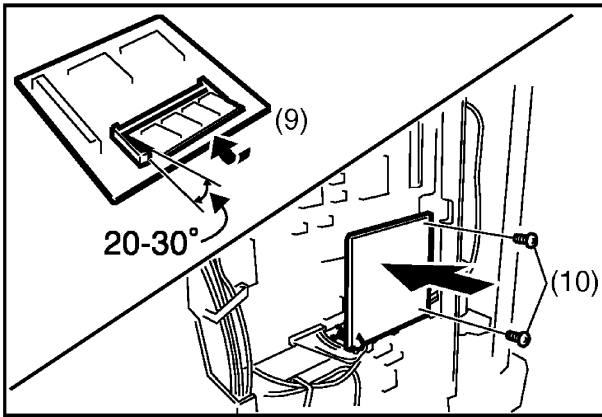


- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



**For DP-2000**

- (6) Remove 2 Screws.
- (7) Release the Locking Spacer.
- (8) Remove the SORT PC Board.

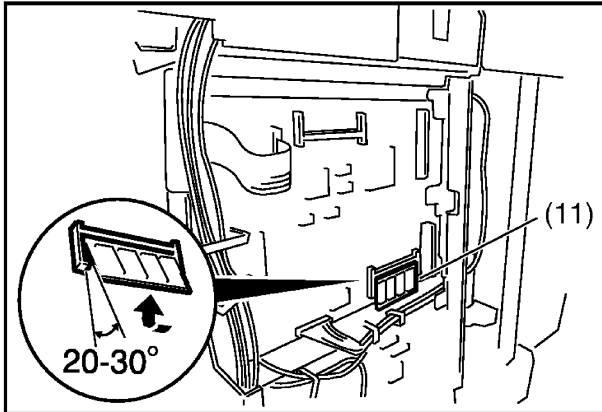


- (9) Insert the SDRAM PC Board into the SORT MEMORY socket on the SORT PC Board as illustrated on the left.

**Note:**

Make sure to insert the SDRAM PC Board with 20 - 30° angle against the memory socket, and then lock it down.

- (10) Re-install the SORT PC Board.



**For DP-2500/3000**

- (11) Insert the SDRAM PC Board into the SORT MEMORY socket on the SC PC Board as illustrated on the left.

**Note:**

Make sure to insert the SDRAM PC Board with 20 - 30° angle against the memory socket, and then lock it down.

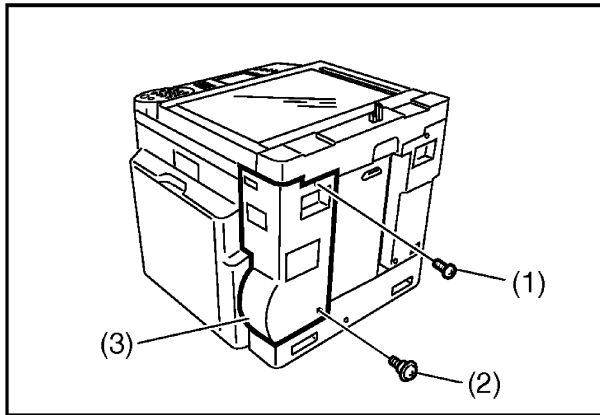
- (12) Proceed with the installation of other options. If finished, close and secure the Rear Plate and re-install the remaining Covers.

## 9.9. Installing the Expansion Flash Memory Card 4/8 MB (UE-410047/410048)

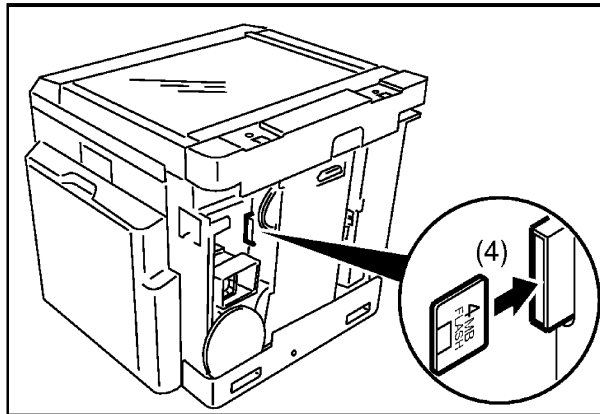
### 9.9.1. Installation

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Remove 1 Screw (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Right Rear Cover.



- (4) Insert the Expansion Flash Memory Card as illustrated on the left.
- (5) Re-install the Right Rear Cover.

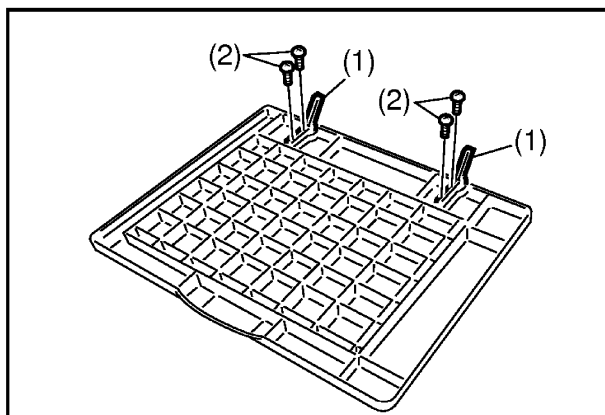


## 9.10. Installing the Platen Cover (DA-UC200)

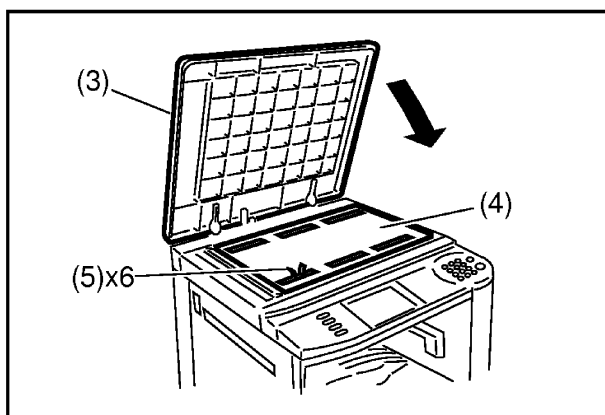
### 9.10.1. Contents

Qty.	Description	Part No.	Remarks
1	Platen Cover	DZMA002394	
1	Scanning Pad	DZJM000428	
2	Platen Hinge	DZMH000013	
4	Screw	XTB3+12J	
1	Installation Guide	DZSM000303	This document

### 9.10.2. Installation



- (1) Install the 2 Platen Hinges.
- (2) Secure the Platen Hinges with 2 Screws each.



- (3) Install the Platen Cover.
- (4) Place the Scanning Pad on the glass aligning on the upper left corner.
- (5) Peel off the 6 adhesive protectors from the Scanning Pad.
- (6) Close the Platen Cover.

**Note:**

Re-open the Platen Cover and push the Scanning Pad gently to paste it properly.

## 9.11. Installing the Automatic Document Feeder and the Inverting Automatic Document Feeder (DA-AS200/AR250)

### 9.11.1. Contents

Qty.	Description	Part No.	Remarks
1	Automatic Document Feeder	See Note	
	Inverting Automatic Document Feeder	See Note	
1	Scanning Pad	DZJM000428	
2	Hinge Stopper	DZJA000726	
2	Hinge Cover	DZMC000713	
2	ADF Mounting Bracket	DZJA000730	
2	Thumb Screw	DZPA000064	
1	Stamp Unit	DZHP000237	For USA/Canadian models
		DZHP000240	Other countries
2	Screw	XSN4+W10FN	Silver
5	Screw	XTB3+8J	6 Screws for European models
8	Screw	XTB3+12J	
1	Installation Guide	DZSM000261	This document

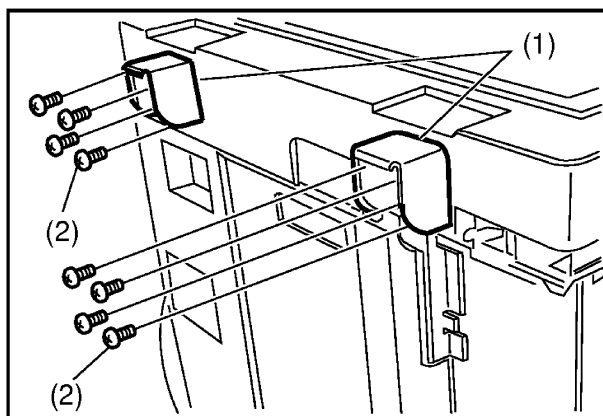
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

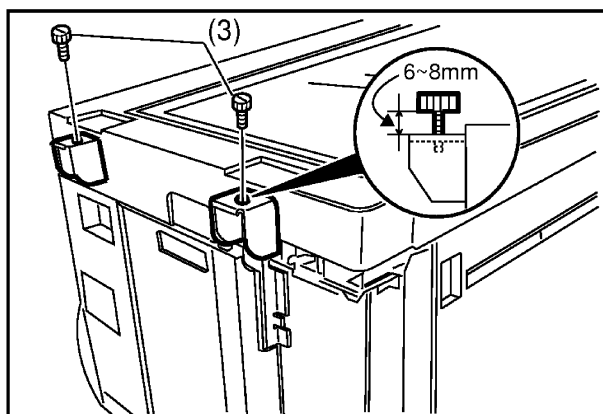
### 9.11.2. Installation

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



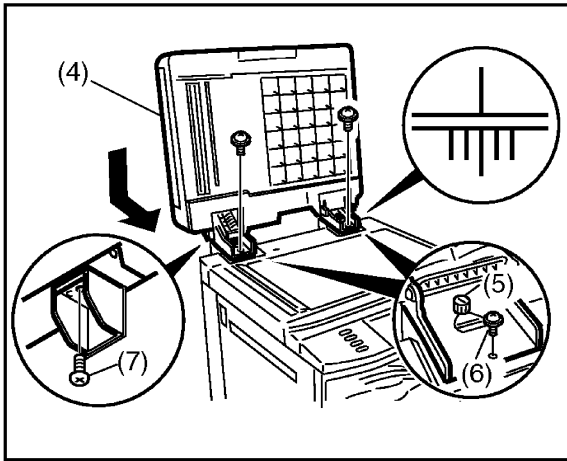
- (1) Install the 2 ADF Mounting Brackets.
- (2) Secure the 2 ADF Mounting Brackets with 8 Screws. (XTB3+12J)



- (3) Install 2 Thumb Screws, one on each ADF Mounting Bracket.

**Note:**

When installing the 2 Thumb screws, do NOT tighten the screws. Keep about 6-8mm space as illustrated on the left.



- (4) Install the Automatic Document Feeder on top of the ADF Mounting Brackets.

**Note:**

- a. Set the Automatic Document Feeder in the direction of the arrow.
- b. Align the hallmark on the right side of the Hinge Base and the ADF Mounting Bracket as illustrated on the left.

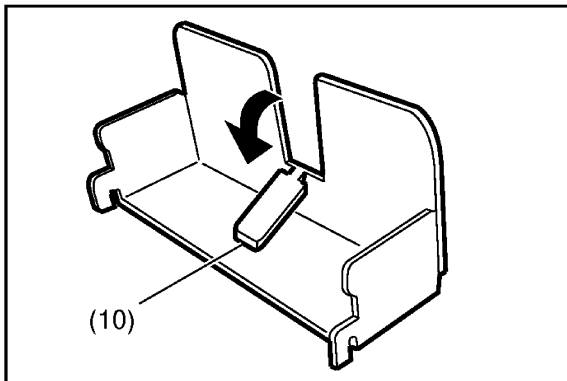
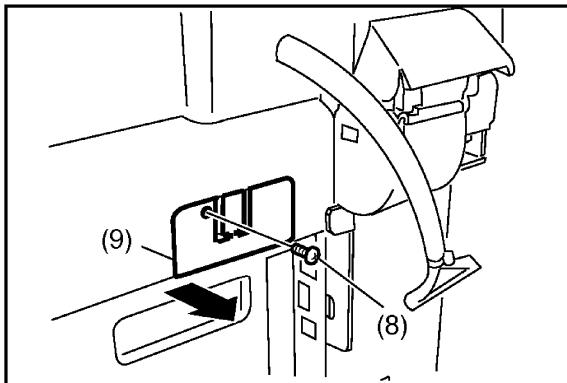
- (5) Tighten the 2 Thumb Screws (Silver).

- (6) Secure the Automatic Document Feeder with 2 Screws. (XSN4+W10FN Silver)

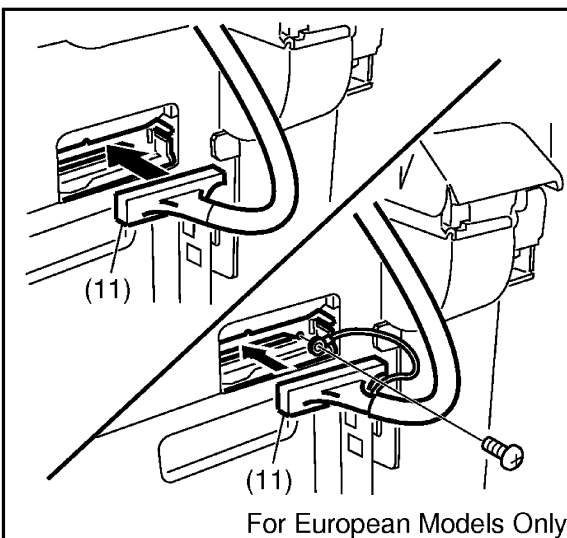
- (7) Install 1 Screw on the back of the left ADF Mounting Bracket from the bottom. (XTB3+8J)

- (8) Remove 1 Screw.

- (9) Remove the CN Bracket.



- (10) Bend the protective Tab on the CN Bracket more than 90° as illustrated on the left.



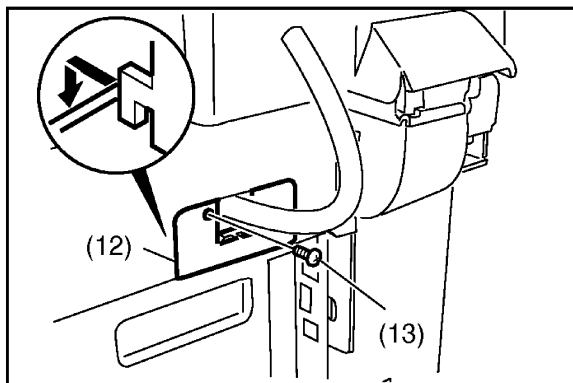
- (11) Connect the Connector of the Automatic Document Feeder Unit.

**Note:**

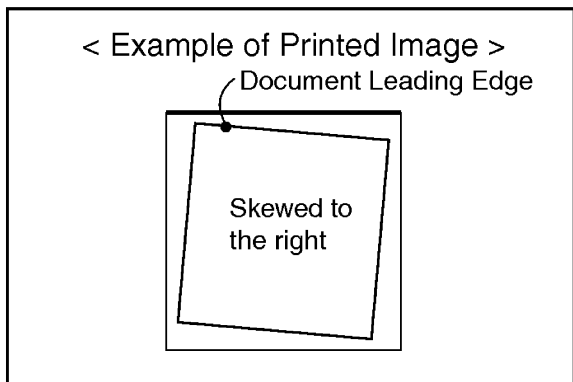
- Be sure the connector is secured with the Latch on both side.

**< For European Models Only >**

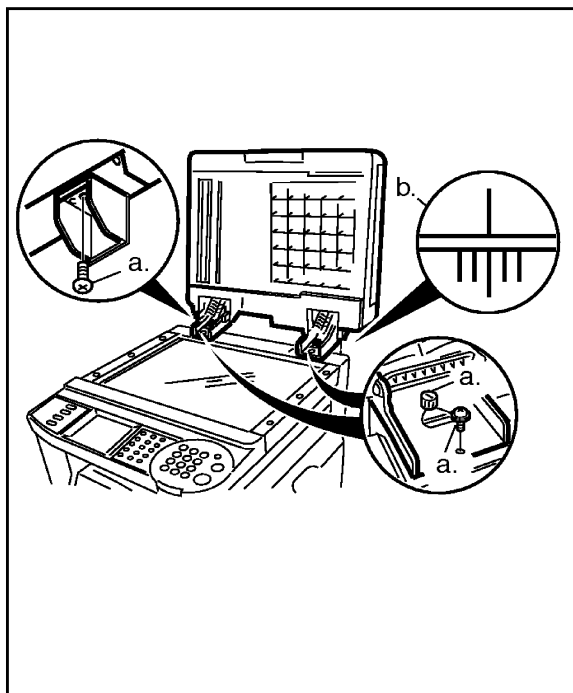
- After connecting the Connector of the Automatic Document Feeder Unit, secure the Ground Wire with 1 Screw as shown on the left.



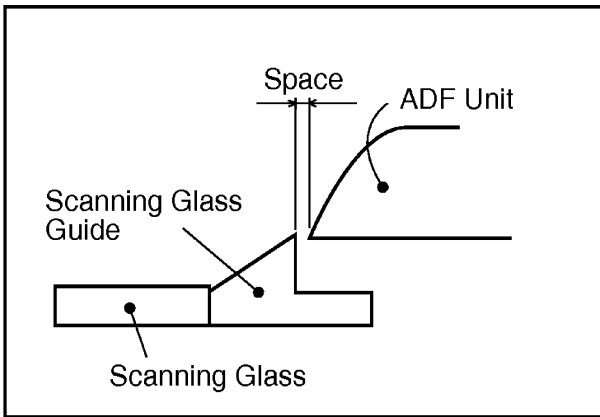
- (12) Re-install the CN Bracket.
- (13) Secure the CN Bracket with 1 Screw.



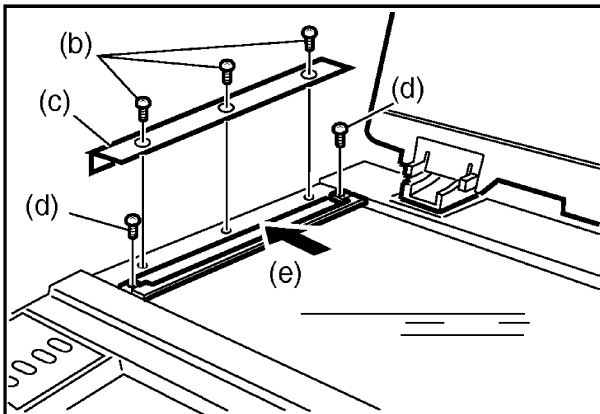
- (14) Using a lined original (about 20lb (80 g/m<sup>2</sup>) weight paper), make a copy from the ADF / i-ADF to check for feeding alignment.



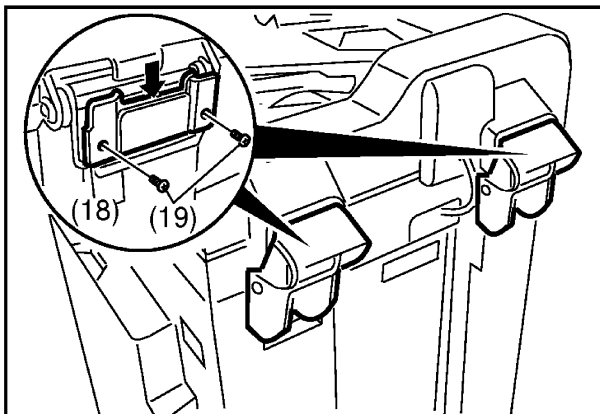
- (15) Check the printed copy. If the printed image is skewed either to the Right or Left, adjust the ADF position following the procedure below:
  - a. Loosen the 5 screws securing the ADF / i-ADF.
  - b. Using the Hallmark on the Right Hinge Base and the ADF Mounting Bracket as a guide, shift the ADF position following the procedure below:
    - When the printed image is skewed to the right, shift the ADF toward the front of the machine slightly.
    - When the printed image is skewed to the left, shift the ADF toward the rear of the machine slightly.
  - c. Tighten the 5 screws loosened in step 15a.
  - d. Repeat step 14 to recheck the feeding alignment and readjust the ADF position as needed.



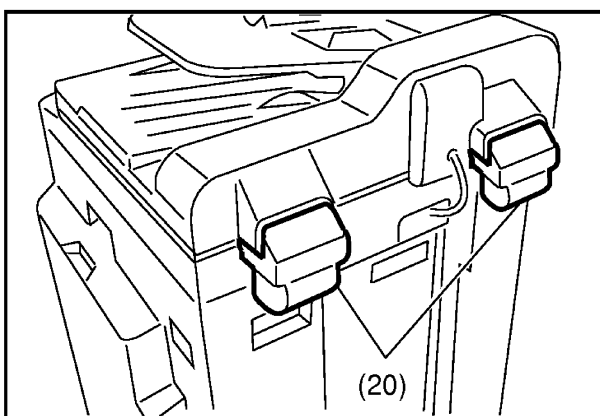
- (16) Check for spacing between the ADF Unit and the Scanning Glass Guide as illustrated on the left.



- (17) If there is no spacing, adjust the Platen Glass position following the procedure below:
- Open the ADF Unit.
  - Remove 3 Screws (Silver).
  - Remove the Left Platen Cover.
  - Loosen 2 Screws.
  - Shift the Scanning Glass Guide to the left and tighten the 2 Screws.
  - Re-install the Left Platen Cover and secure it with 3 Screws (Silver).



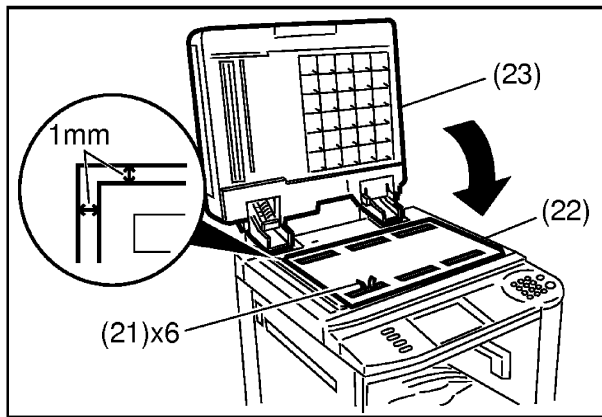
- (18) Install the 2 Hinge Stoppers.  
(19) Secure the 2 Hinge Stoppers with 4 Screws.



- (20) Install the 2 Hinge Covers.

**Note:**

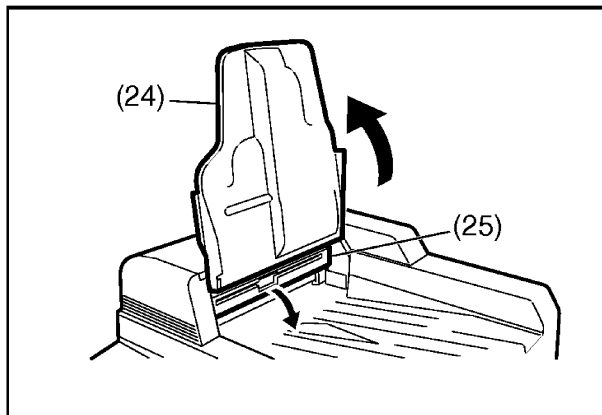
When installing the Hinge Covers, make sure that each Hinge Film is put inside of each Hinge Cover.



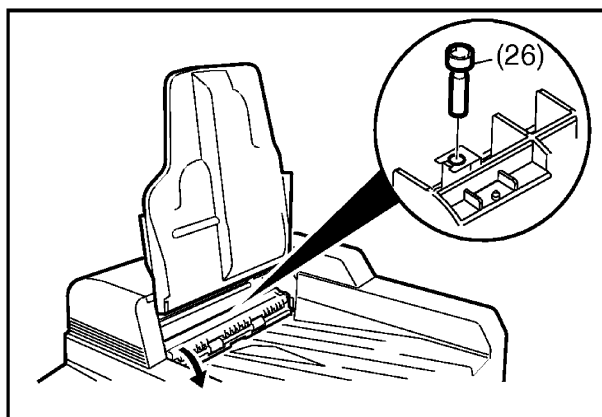
- (21) Peel off the 6 adhesive protectors from the Scanning Pad.
- (22) Place the Scanning Pad on the glass aligning on the upper left corner, keeping 1mm space as shown on the left.
- (23) Close the Automatic Document Feeder.

**Note:**

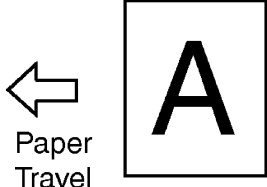


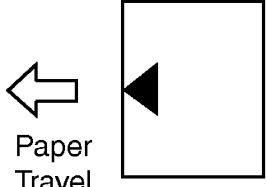

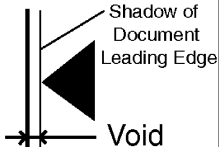
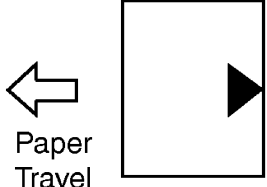

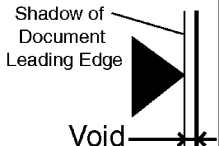
Re-open the ADF Unit and push the Scanning Pad gently to paste it properly.



- (24) Lift the ADF Input Tray.
- (25) Open the ADF Exit Cover.

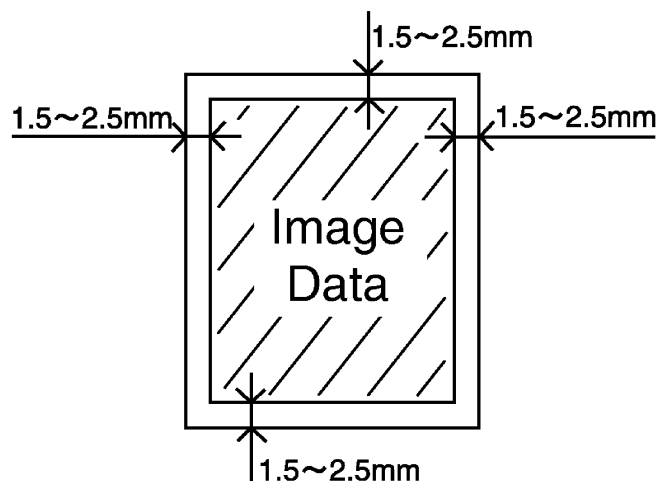


- (26) Install the Stamp Unit.
- (27) Close the ADF Exit Cover, and lower the ADF Input Tray.
- (28) Perform Service Mode F6 (No. 90, 91, 93 and 94) to adjust the ADF Scanning Position.

	Document	Printed Image	Adjustment	Adjustment Amount	Remarks
No.90 ADF detection timing (Adjustment of ADF image read start position)			+	0.1mm / 1 Point	After Parameter Setting, reboot the machine to enable the Parameter Setting.
			-	0.1mm / 1 Point	
No.91 ADF original lead edge registration (Adjustment of original detection timing)			-	0.2mm / 1 Point	Rebooting is not necessary to enable the Parameter Setting.
			+	0.2mm / 1 Point	
No.93 ADF original trail edge (Adjustment of original trail edge detection)			+	0.2mm / 1 Point	
			-	0.2mm / 1 Point	
No.94 ADF magnification ratio (Top feed) (Adjustment of ratio when the scan is made)	Reduced		+	0.1% / 1 Point	
	Enlarged		-	0.1% / 1 Point	

### < When adjusting the ADF Unit >

Adjust the ADF Unit to scan the lined part (inside of the margin 1.5 - 2.5mm) on the document as shown on the right.



## 9.12. Installing the Stand for 1-Paper Tray Configuration (DA-DA200-PA)

### Note:

This option is available only for certain countries.

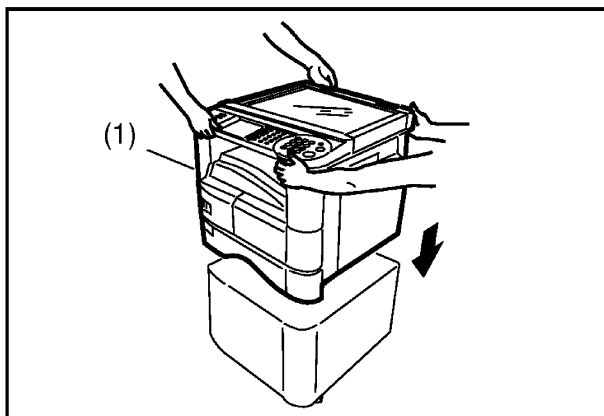
### 9.12.1. Contents

Qty.	Description	Part No.	Remarks
1	Desk for 1st Feeder Unit	DZMA002502	
1	Joint A Plate	DZKK000068	
1	Joint B Plate	DZKK000069	
1	Joint D Plate	DZKK000071	
1	Joint E Plate	DZKK000072	
4	Screw	DZPD000005	
1	Installation Guide	DZSM000298	This document

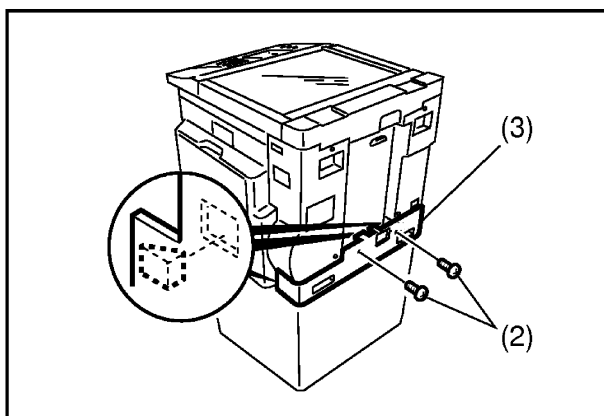
### 9.12.2. Installation

#### Note:

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Place the machine on top of the Desk for 1st Feeder Unit as illustrated on the left.



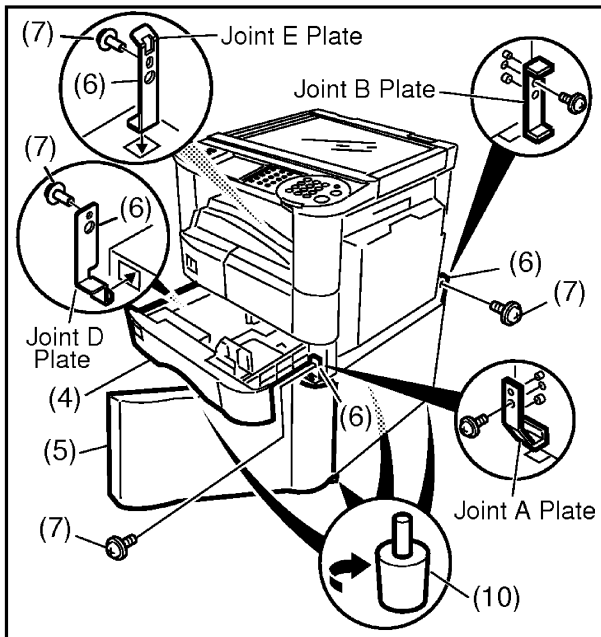
- (2) Remove 2 Screws (Silver).

#### Note:

The number of screws may vary on units produced prior to Dec. 2000.

- (3) Remove the Lower Rear Cover.





- (4) Slide out the Paper Tray from the machine.
- (5) Open the Front Cover.
- (6) Join the Desk for 1st Feeder Unit and the machine with the Joint A Plate (FR), Joint B Plate (RR), Joint D Plate (FL) and Joint E Plate (RL).
- (7) Secure the Joint A Plate, Joint B Plate, Joint D Plate and Joint E Plate with 4 Screws.
- (8) Close the Front Cover and re-install the Lower Rear Cover.
- (9) Slide the Paper Tray into the machine.
- (10) Set the machine with the 4 Adjusters as illustrated on the left.

## 9.13. Installing the Stand for 2-Paper Tray Configuration (DA-DA210-PA)

### Note:

This option is available only for certain countries.

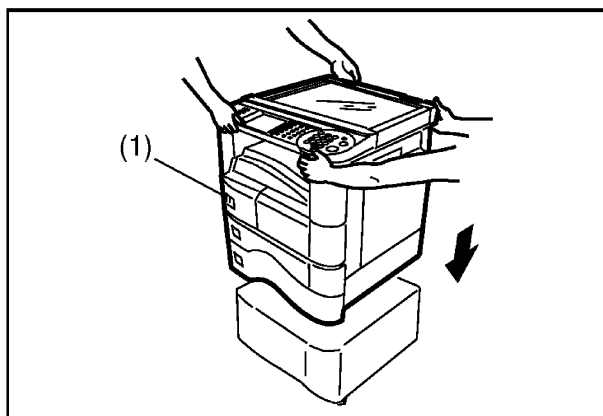
### 9.13.1. Contents

Qty.	Description	Part No.	Remarks
1	Medium Cabinet	DZMA002503	
1	Joint A Plate	DZKK000068	
1	Joint B Plate	DZKK000069	
1	Joint D Plate	DZKK000071	
1	Joint E Plate	DZKK000072	
4	Screw	DZPD000005	
1	Installation Guide	DZSM000299	This document

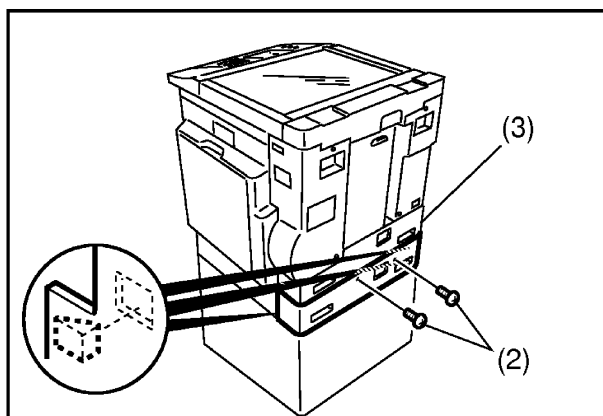
### 9.13.2. Installation

#### Note:

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Place the machine on top of the Medium Cabinet as illustrated on the left.

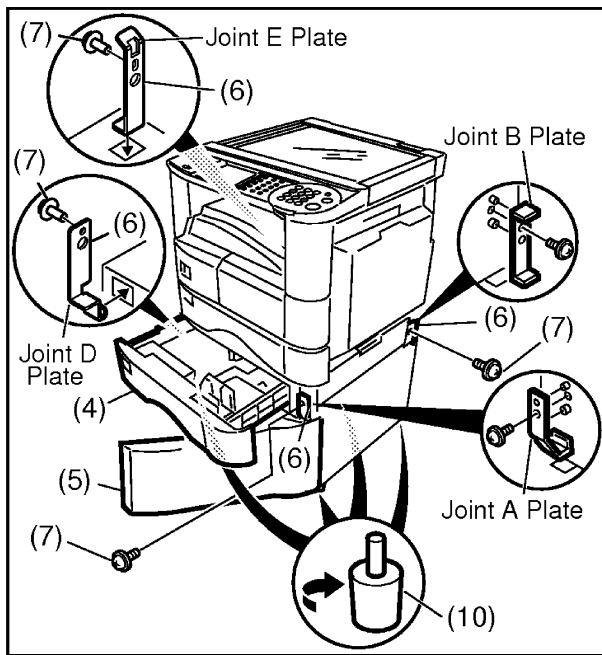


- (2) Remove 2 Screws (Silver).

#### Note:

The number of screws may vary on units produced prior to Dec. 2000.

- (3) Remove the Lower Rear Cover.



- (4) Slide out the Paper Tray from the machine.
- (5) Open the Front Cover.
- (6) Join the Medium Cabinet and the machine with the Joint A Plate (FR), Joint B Plate (RR), Joint D Plate (FL) and Joint E Plate (RL).
- (7) Secure the Joint A Plate, Joint B Plate, Joint D Plate and Joint E Plate with 4 Screws.
- (8) Close the Front Cover and re-install the Lower Rear Cover.
- (9) Slide the Paper Tray into the machine.
- (10) Set the machine with the 4 Adjusters as illustrated on the left.

## 9.14. Installing the 3rd Paper Feed Module and the Stand for 3-Paper Tray Configuration (DA-DS210/DS215, DA-DA220-PA)

### 9.14.1. Contents

<DA-DS210> 3rd Paper Feed Module for DP-2000/2500

Qty.	Description	Part No.	Remarks
1	3rd Paper Feed Module	DZHP003705	For DA-DS210
4	Bracket	DZJA000723	
1	Size Label	DZNK002812	
8	Screw	XTB3+8J	
1	Installation Guide	DZSM000291	This document

<DA-DS215> 3rd Paper Feed Module for DP-2000/2500/3000

Qty.	Description	Part No.	Remarks
1	3rd Paper Feed Module	DZHP004888	
1	Extension Harness	DZFP001024	For use with DP-2000/2500
4	Bracket	DZJA000723	
1	Size Label	DZNK002812	
8	Screw	XTB3+8J	
1	Installation Guide	DZSM000291	This document

<DA-DA220-PA> 3-Paper Tray Configuration

**Note:**

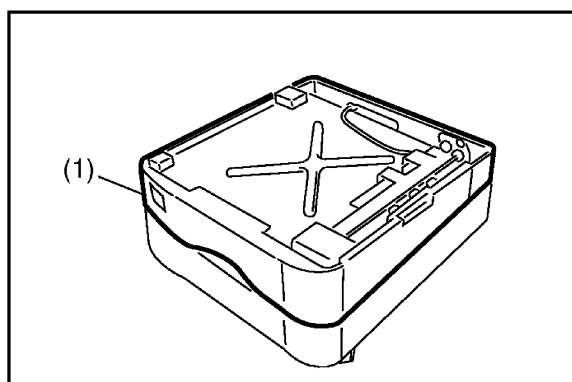
This option is available only for certain countries.

Qty.	Description	Part No.	Remarks
1	Short Cabinet	DZMA002504	
1	Joint A Plate	DZKK000068	
1	Joint B Plate	DZKK000069	
1	Joint D Plate	DZKK000071	
1	Joint E Plate	DZKK000072	
4	Screw	DZPD000005	
1	Installation Guide	DZSM000291	This document

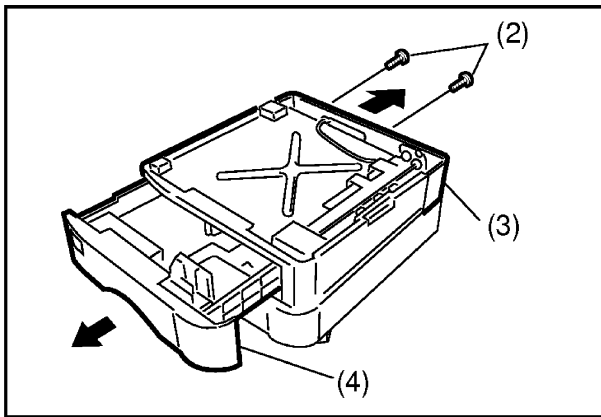
### 9.14.2. Installation

**Note:**

1. DA-DS210 is installed only on the DP-2000/2500.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Place the 3rd Paper Feed Module on top of the Short Cabinet as illustrated on the left.

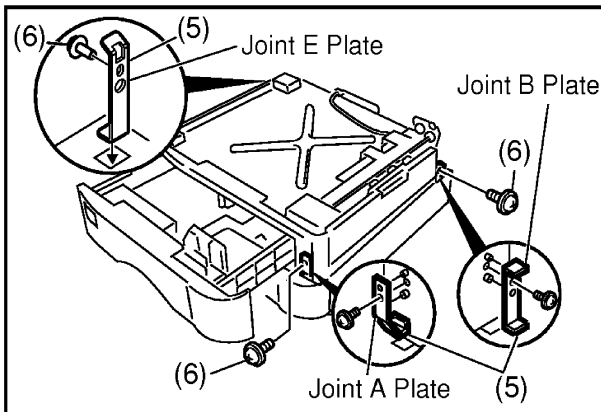


- (2) Remove 2 Screws (Silver).

**Note:**

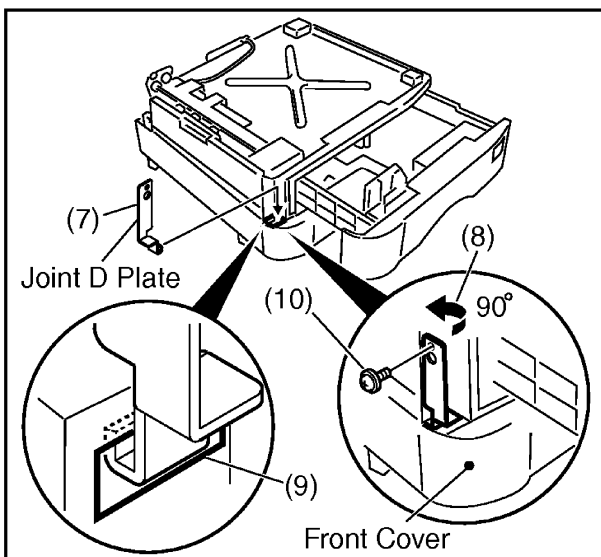
The number of screws may vary on units produced prior to Dec. 2000.

- (3) Remove the Lower Rear Cover.  
(4) Slide out the Paper Tray.



- (5) Join the Short Cabinet and the 3rd Paper Feed Module with the Joint A Plate (FR), Joint B Plate (RR) and Joint E Plate (RL).

- (6) Secure the Joint A Plate, Joint B Plate and Joint E Plate with 3 Screws.

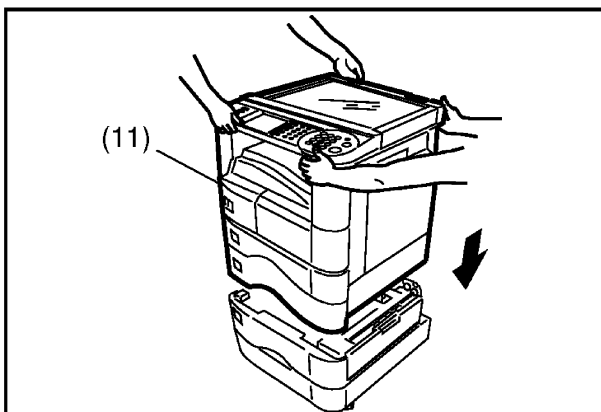


- (7) Install the Joint D Plate (FL) as shown on the left.

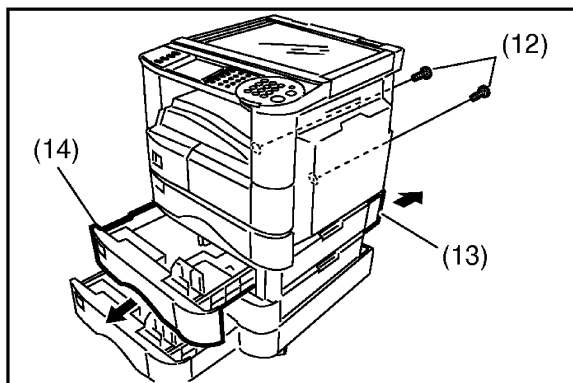
- (8) Rotate the Joint D Plate (FL) 90° in the direction of the arrow.

- (9) Hitch the hook of the Joint D Plate to the hole of the Short Cabinet as shown on the left.

- (10) Secure the Joint D Plate with 1 Screw.



- (11) Place the machine on top of the 3rd Paper Feed Module as illustrated on the left.



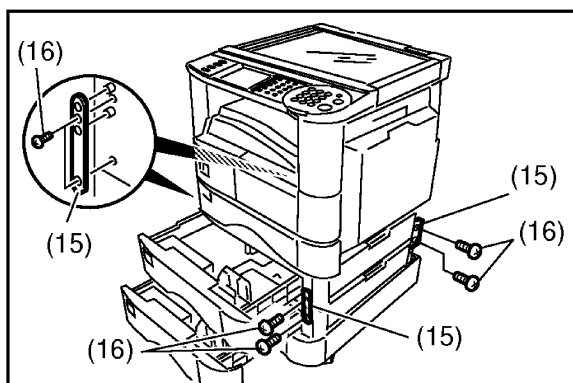
(12) Remove 2 Screws (Silver).

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

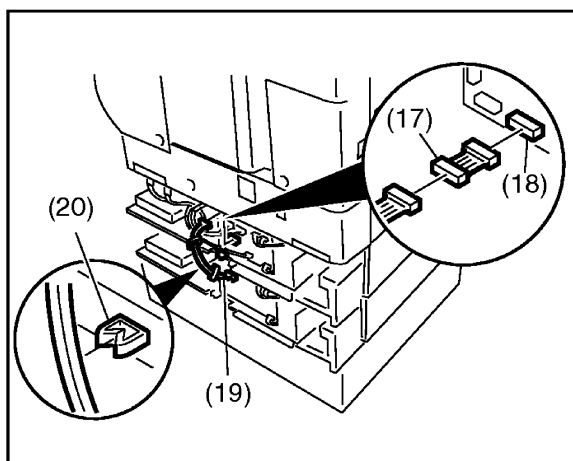
(13) Remove the Lower Rear Cover.

(14) Slide out the Paper Tray from the machine.



(15) Install the 4 Brackets.

(16) Secure the 4 Brackets with 8 Screws.



(17) Connect the Extension Harness (DZFP001024) which came with DA-DS215, to the Harness of the 3rd Paper Feed Module.

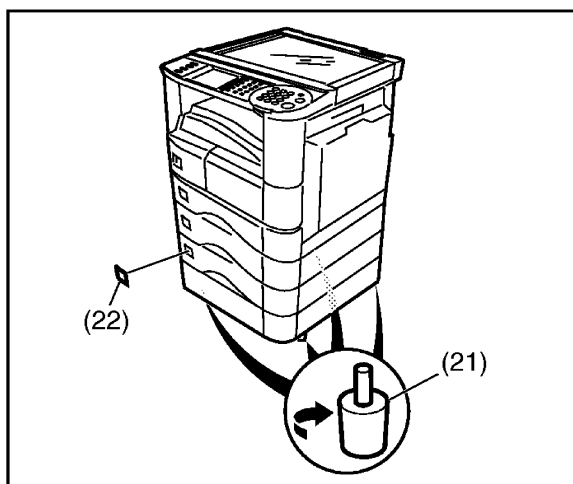
**Note:**

The Extension Harness (DZFP001024) is needed only when installing the DA-DS215 Paper Feed Module to the DP-2500.

(18) Connect the Harness of the 3rd Paper Feed Module to CN772 on the CST2 PC Board of the 2nd Paper Feed Module.

(19) Place the Harness into the clamp.

(20) Re-install the Lower Rear Cover and the Paper Trays.



(21) Set the machine with the 4 Adjusters as illustrated on the left.

(22) Paste the Size Label on the 3rd Paper Feed Module.

## 9.15. Installing the 2nd/4th Paper Feed Module (DA-DS200) [For DP-2000/2500 Only] and the Stand for 4-Paper Tray Configuration (DA-DA230-PA)

### 9.15.1. Contents

<DA-DS200> 2nd/4th Paper Feed Module [For DP-2000/2500 Only]

Qty.	Description	Part No.	Remarks
1	2nd/4th Paper Feed Module	DZHP003680	
4	Bracket	DZJA000723	
1	Size Label	DZNK002812	
8	Screw	XTB3+8J	
1	Installation Guide	DZSM000290	This document

<DA-DA230-PA> Stand for 4-Paper Tray Configuration

**Note:**

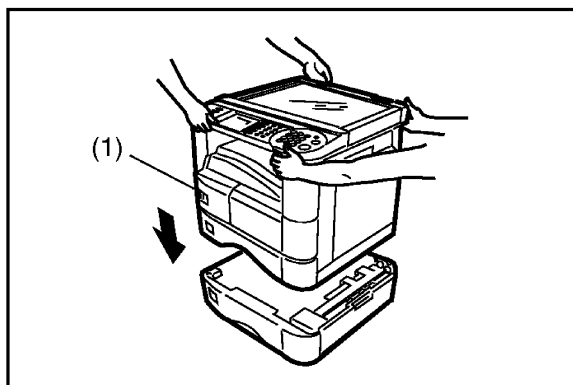
This option is available only for certain countries.

Qty.	Description	Part No.	Remarks
1	Caster	DZMM000020	
2	Joint C Plate	DZKK000070	
1	Joint F Plate	DZKK000073	
1	Joint G Plate	DZKK000074	
4	Screw	DZPD000005	
1	Installation Guide	DZSM000290	This document

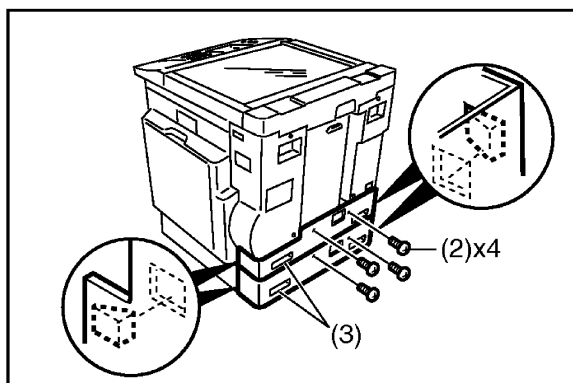
### 9.15.2. Installing the 2nd Paper Feed Module on the DP-2000

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Place the machine on top of the 2nd Paper Feed Module as illustrated on the left.

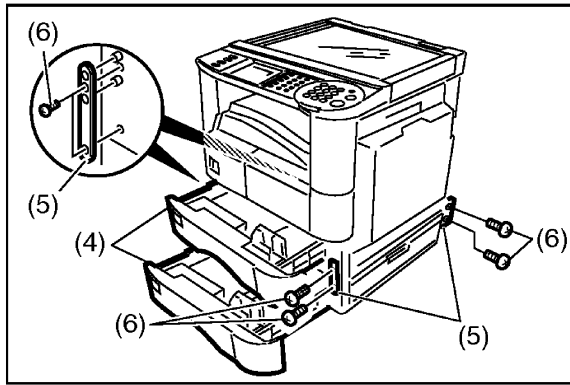


- (2) Remove 4 Screws (Silver).

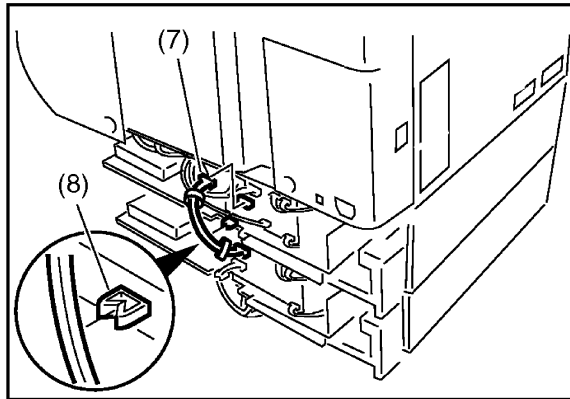
**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (3) Remove 2 Lower Rear Covers.



- (4) Slide out 2 Paper Trays.
- (5) Install the 4 Brackets.
- (6) Secure the 4 Brackets with 8 Screws.

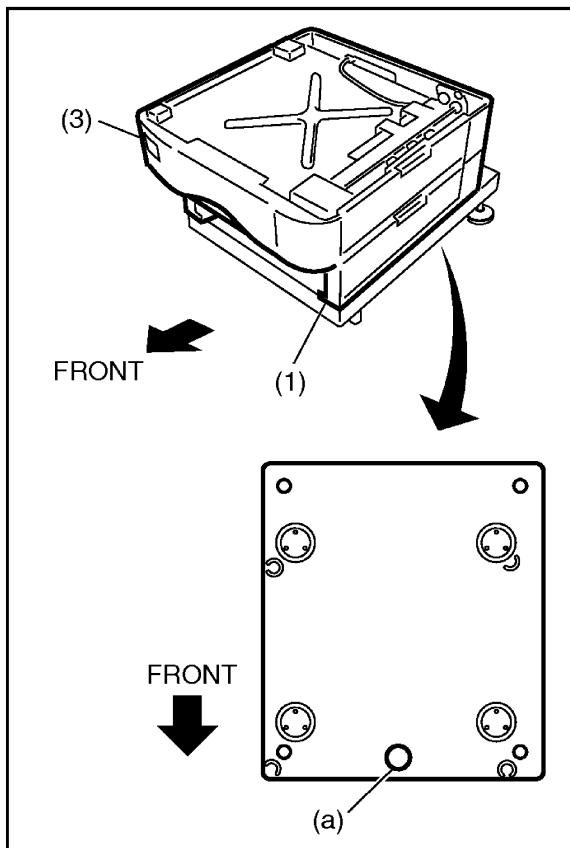


- (7) Connect the Harness of the 2nd Paper Feed Module to CN707 on the LPC PC Board.
- (8) Place the Harness into the clamp.
- (9) Re-install the Lower Rear Covers and the Paper Trays.

### 9.15.3. Installing the 3rd and 4th Paper Feed Modules on the DP-2000/2500

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



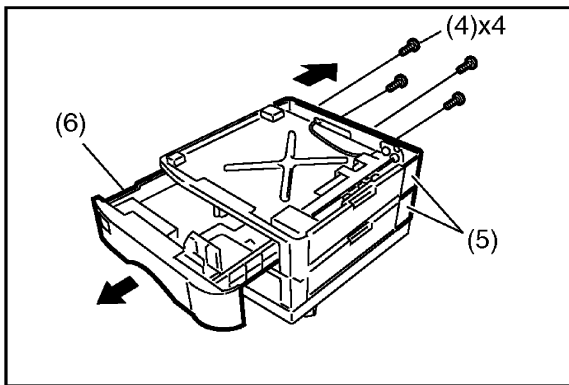
- (1) Slide out the Paper Tray from the 2nd/4th Paper Feed Module.
- (2) Place the 2nd/4th Paper Feed module on top of the Caster.

**Note:**

The side with the silver seal shown in (a) on the left is the front.

- (3) Place the 3rd Paper Feed Module on the 2nd/4th Paper Feed Module.





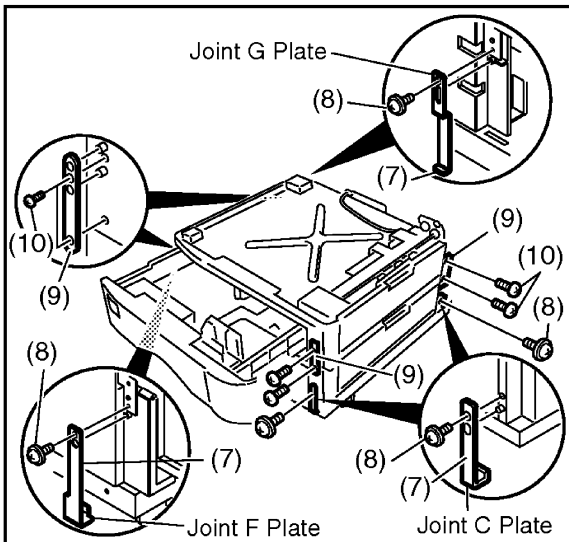
(4) Remove 4 Screws (Silver).

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

(5) Remove the 2 Lower Rear Covers.

(6) Slide out the Paper Tray from the 3rd Paper Feed Module.

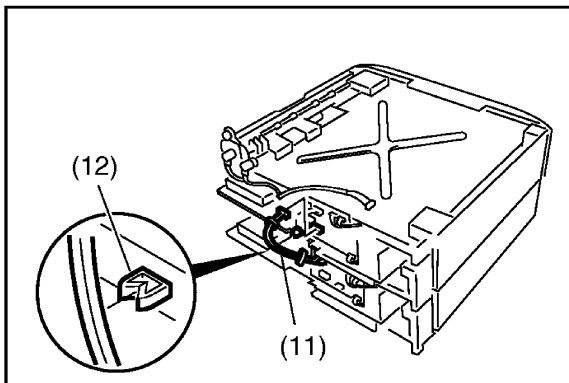


(7) Join the Caster and the 2nd/4th Paper Feed Module with the Joint C Plates (FR/RR), Joint F Plate (FL) and Joint G Plate (RL).

(8) Secure the Joint C Plates, Joint F Plate and Joint G Plate with 4 Screws.

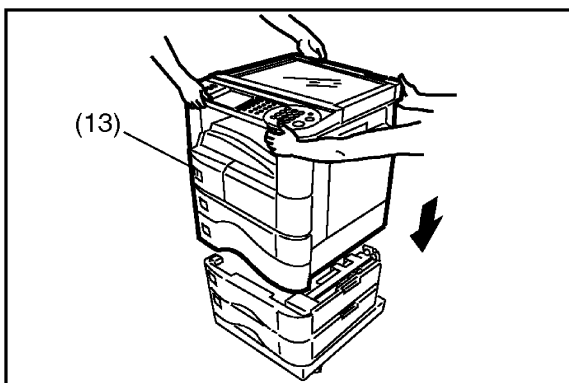
(9) Install the 4 Brackets.

(10) Secure the 4 Brackets with 8 Screws.

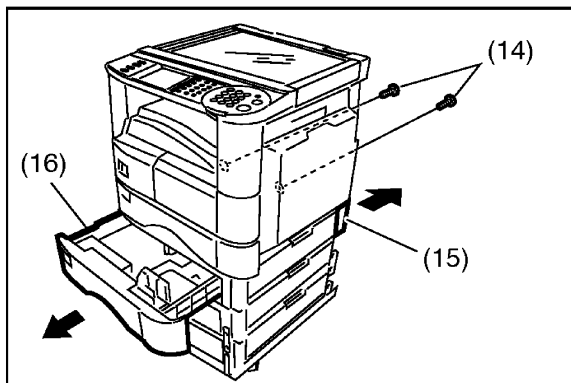


(11) Connect the Harness of the 2nd/4th Paper Feed Module to CN808 on the CST3 PC Board of the 3rd Paper Feed Module.

(12) Place the Harness into the clamp.



(13) Place the machine on top of the 3rd Paper Feed Module as illustrated on the left.



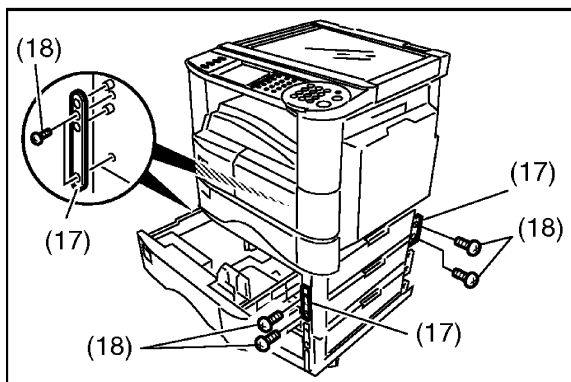
(14) Remove 2 Screws (Silver).

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

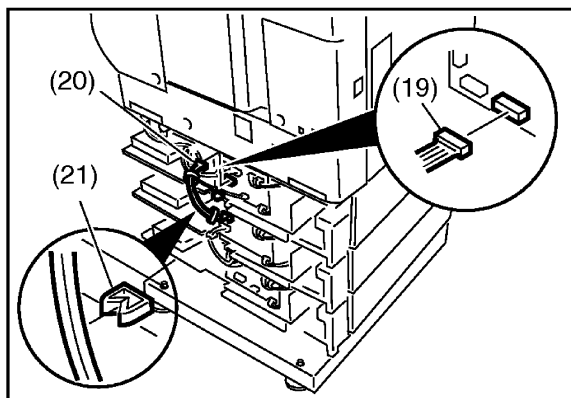
(15) Remove the Lower Rear Cover.

(16) Slide out the Paper Tray.



(17) Install the 4 Brackets.

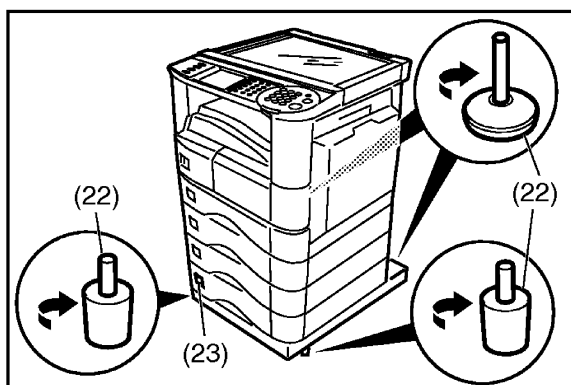
(18) Secure the 4 Brackets with 8 Screws.



(19) Connect the Harness of the 3rd Paper Feed Module to CN772 on the CST2 PC Board of the 2nd Paper Feed Module.

(20) Place the Harness into the clamp.

(21) Re-install the Lower Rear Covers and the Paper Trays.



(22) Set the machine with the 4 Adjusters as illustrated on the left.

(23) Paste the Size Label on the 2nd/4th Paper Feed Module.

## 9.16. Installing the 2nd/4th Paper Feed Module and the Stand for 4-Paper Tray Configuration (DA-DS205, DA-DA230-PA)

### 9.16.1. Contents

<DA-DS205> 2nd/4th Paper Feed Module [For DP-2000/2500/3000]

Qty.	Description	Part No.	Remarks
1	2nd/4th Paper Feed Module	DZHP004885	
1	Extension Harness	DZFP001023	
4	Bracket	DZJA000723	
1	Size Label	DZNK002812	
8	Screw	XTB3+8J	
1	Installation Guide	DZSM000427	This document

<DA-DA230-PA> Stand for 4-Paper Tray Configuration

**Note:**

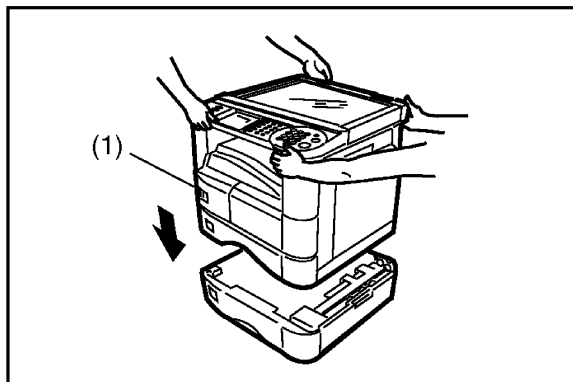
This option is available only for certain countries.

Qty.	Description	Part No.	Remarks
1	Caster	DZMM000020	
2	Joint C Plate	DZKK000070	
1	Joint F Plate	DZKK000073	
1	Joint G Plate	DZKK000074	
4	Screw	DZPD000005	
1	Installation Guide	DZSM000290	This document

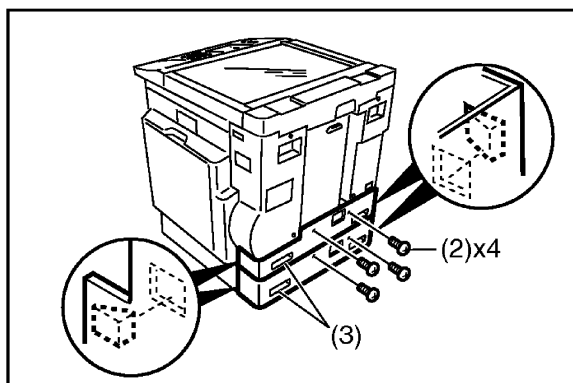
### 9.16.2. Installing the 2nd Paper Feed Module on the DP-2000

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Place the machine on top of the 2nd Paper Feed Module as illustrated on the left.

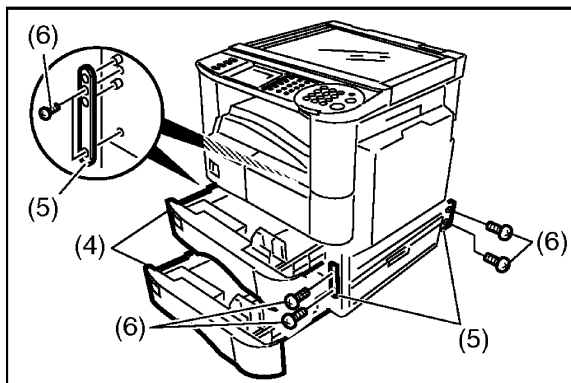


- (2) Remove 4 Screws (Silver).

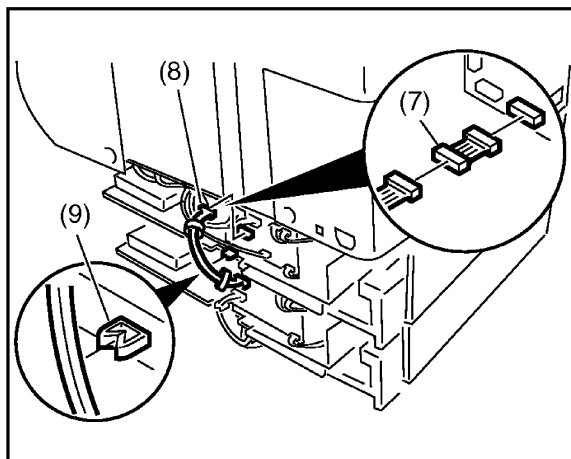
**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (3) Remove 2 Lower Rear Covers.



- (4) Slide out 2 Paper Trays.
- (5) Install the 4 Brackets.
- (6) Secure the 4 Brackets with 8 Screws.

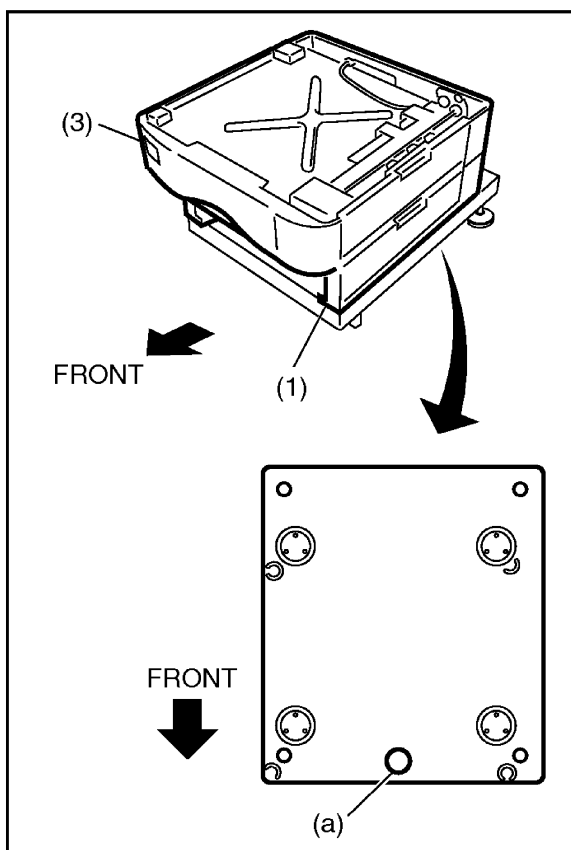


- (7) Connect the Extension Harness (DZFP001023) which came with DA-DS205, to the Harness of the 2nd Paper Feed Module.
- Note:**  
The Extension Harness (DZFP001023) is needed only when installing the DA-DS205 Paper Feed Module to the DP-2000.
- (8) Connect the Harness of the 2nd Paper Feed Module to CN707 on the LPC PC Board.
- (9) Place the Harness into the clamp.
- (10) Re-install the Lower Rear Covers and the Paper Trays.

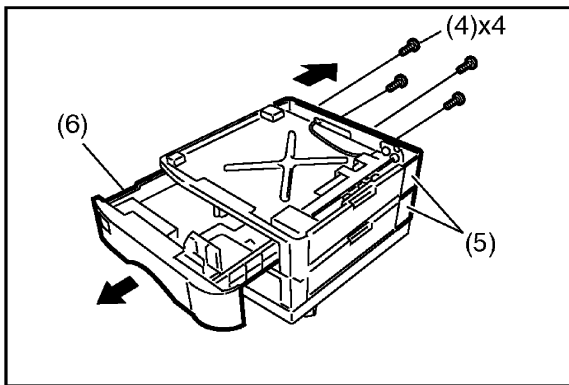
### 9.16.3. Installing the 3rd and 4th Paper Feed Module on the DP-2000/2500/3000

**Note:**

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Slide out the Paper Tray from the 2nd/4th Paper Feed Module.
- (2) Place the 2nd/4th Paper Feed module on top of the Caster.
- Note:**  
The side with the silver seal shown in (a) on the left is the front.
- (3) Place the 3rd Paper Feed Module on the 2nd/4th Paper Feed Module.



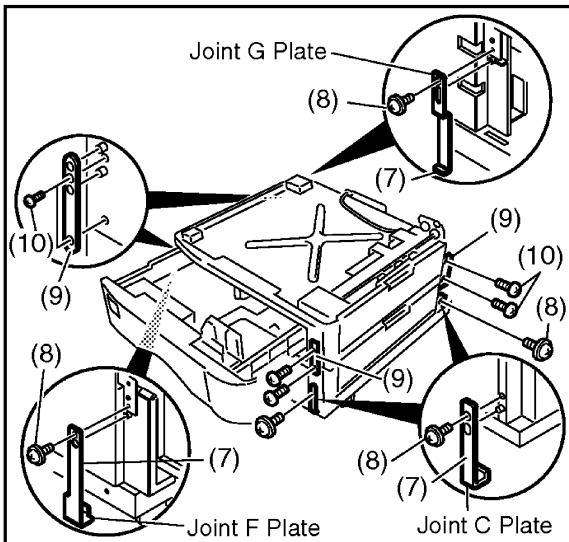
(4) Remove 4 Screws (Silver).

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

(5) Remove the 2 Lower Rear Covers.

(6) Slide out the Paper Tray from the 3rd Paper Feed Module.

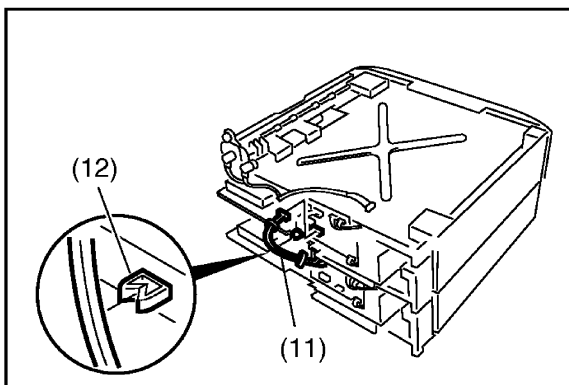


(7) Join the Caster and the 2nd/4th Paper Feed Module with the Joint C Plates (FR/RR), Joint F Plate (FL) and Joint G Plate (RL).

(8) Secure the Joint C Plates, Joint F Plate and Joint G Plate with 4 Screws.

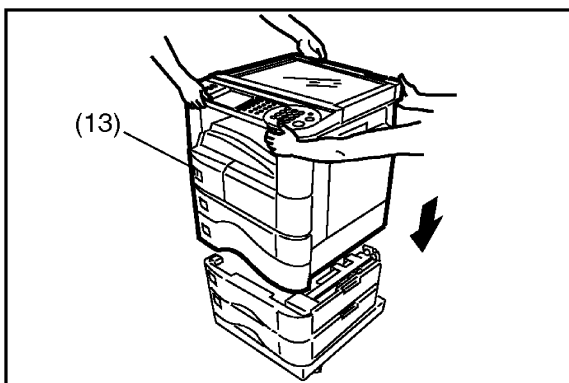
(9) Install the 4 Brackets.

(10) Secure the 4 Brackets with 8 Screws.

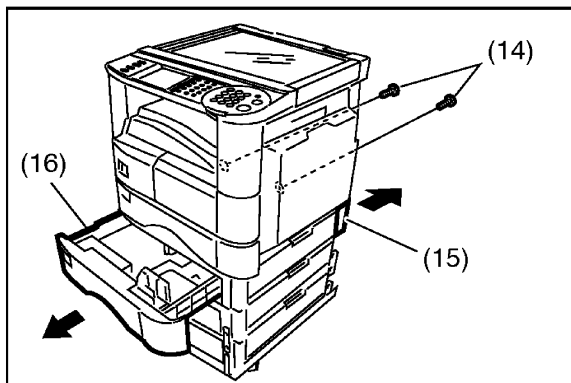


(11) Connect the Harness of the 2nd/4th Paper Feed Module to CN808 on the CST3 PC Board of the 3rd Paper Feed Module.

(12) Place the Harness into the clamp.



(13) Place the machine on top of the 3rd Paper Feed Module as illustrated on the left.



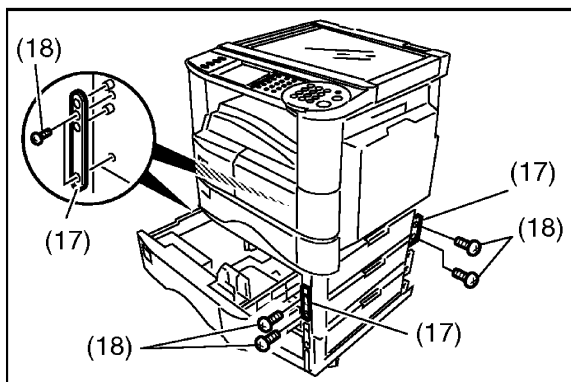
(14) Remove 2 Screws (Silver).

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

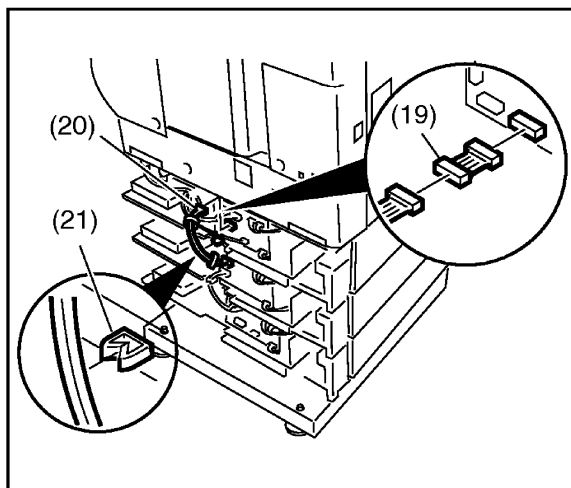
(15) Remove the Lower Rear Cover.

(16) Slide out the Paper Tray.



(17) Install the 4 Brackets.

(18) Secure the 4 Brackets with 8 Screws.



(19) Connect the Extension Harness (DZFP001024) which came with DA-DS215 (3rd Paper Feed Module), to the Harness of the 3rd Paper Feed Module.

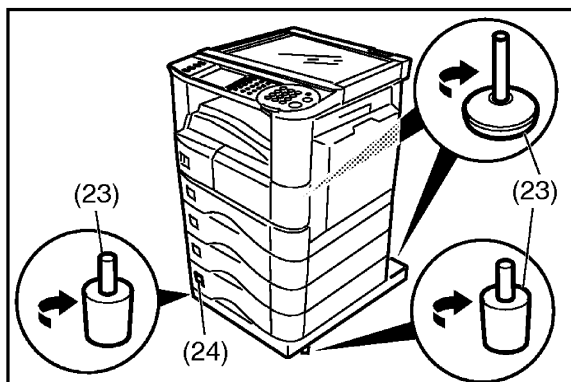
**Note:**

The Extension Harness (DZFP001024) is needed only when installing the DA-DS215 Paper Feed Module to the DP-2500.

(20) Connect the Harness of the 3rd Paper Feed Module to CN772 on the CST2 PC Board of the 2nd Paper Feed Module.

(21) Place the Harness into the clamp.

(22) Re-install the Lower Rear Covers and the Paper Trays.



(23) Set the machine with the 4 Adjusters as illustrated on the left.

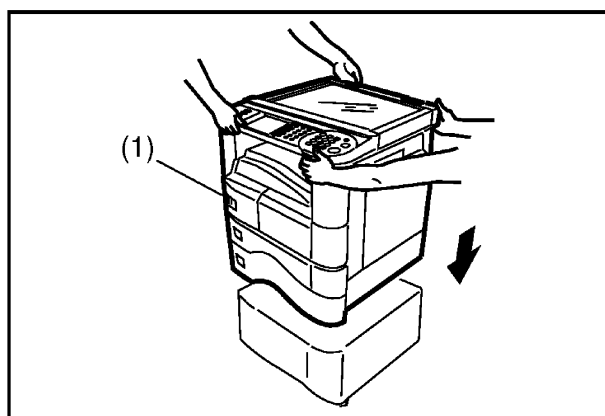
(24) Paste the Size Label on the 2nd/4th Paper Feed Module.

## 9.17. Installing the Plain Stand (DA-D250) : For USA only

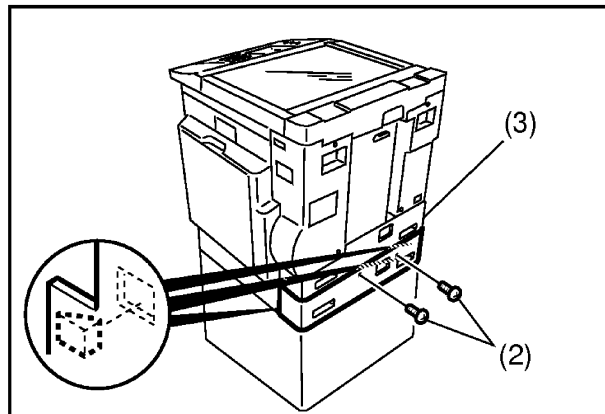
### 9.17.1. Contents

Qty.	Description	Part No.	Remarks
1	Plain Stand with Casters	-----	
1	Joint Bracket A (Right Front)	MS0330	
1	Joint Bracket B (Right Rear)	MS0331	Shorter piece
1	Joint Bracket D (Left Front)	MS0332	
1	Joint Bracket E (Left Rear)	MS0333	Longer piece
4	Screw	DZPD000005	
1	Installation Instruction	R01233	This document

### 9.17.2. Installation



(1) Place the machine on top of the Plain Stand.

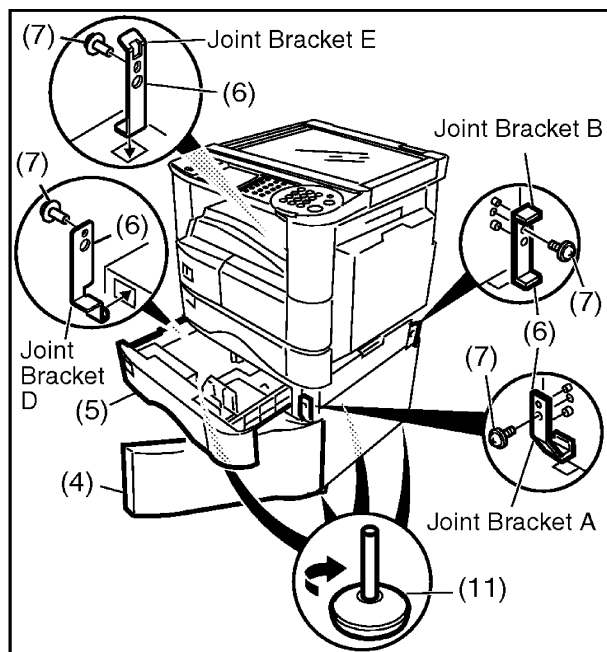


(2) Remove 2 Screws (Silver) from the Rear Cover on the 2nd Paper Feed Module.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

(3) Remove the Rear Cover.



- (4) Open the Plain Stand's Front Cover.
- (5) Open the Paper Tray No. 2.
- (6) Connect the machine to the Plain Stand with 4 Joint Brackets included in the hardware bag.
- (7) Secure each Joint Bracket with the 4 Screws included in the hardware bag.
- (8) Close the Paper Tray No. 2.
- (9) Close the Plain Stand's Front Cover.
- (10) Re-install the Rear Cover and secure it with the 2 Screws (Silver) removed in Step 2.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (11) Place the machine in the desired location and lower the leveler on each corner to stabilize the machine.



## 9.18. Installing the Base Plate with Casters (DA-D200) : For USA only

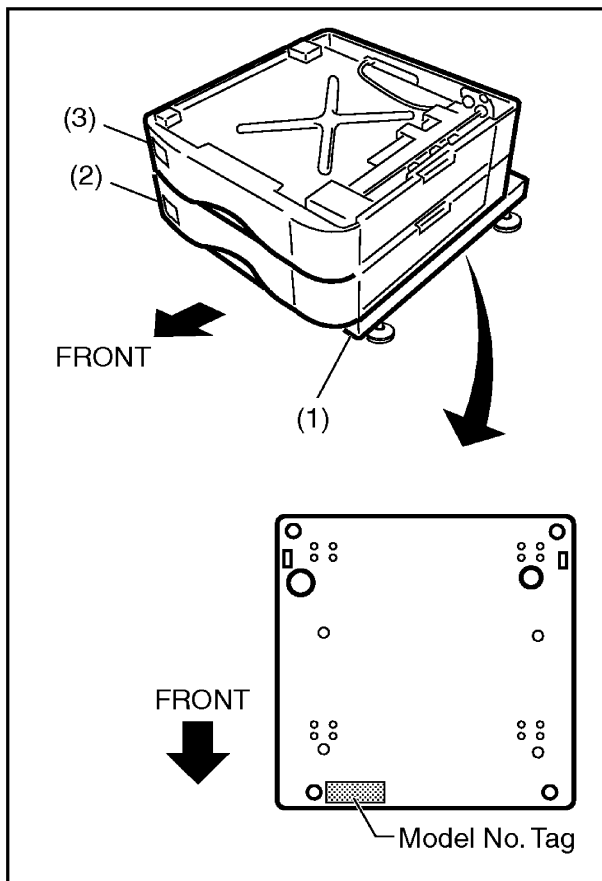
### 9.18.1. Contents

Qty.	Description	Part No.	Remarks
1	Base Plate with Casters	-----	
1	Joint Bracket A (Right Front)	MS0330	
1	Joint Bracket B (Right Rear)	MS0331	Shorter piece
1	Joint Bracket D (Left Front)	MS0332	
1	Joint Bracket E (Left Rear)	MS0333	Longer piece
4	Screw	DZPD000005	
1	Installation Instruction	R01233	This document

**Note:**

This option requires the 3rd Paper Feed Module (DA-DS210) and the 4th Paper Feed Module (DA-DS200) to be installed at the same time.

### 9.18.2. Installation for 4-Paper Tray Configuration

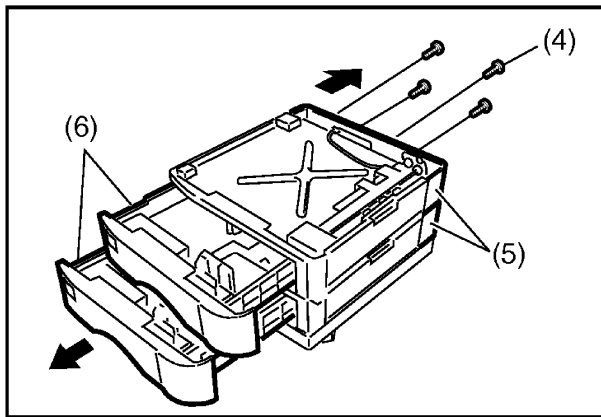


- (1) Place the Base Plate on the floor.

**Note:**

The side with 2 embossed circles is the rear.

- (2) Place the 4th Paper Feed Module (DA-DS200) on top of the Base Plate.
- (3) Place the 3rd Paper Feed Module (DA-DS210) on top of the 4th Paper Feed Module.



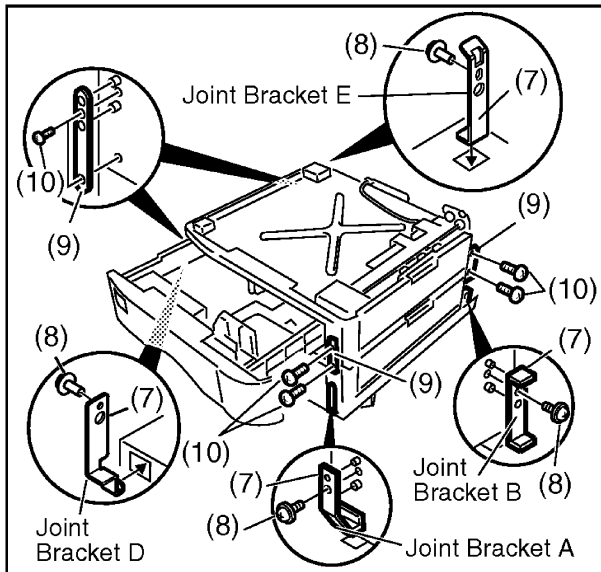
- (4) Remove 4 Screws (Silver) from the Rear Covers of the 3rd and 4th Paper Feed Module.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (5) Remove the Rear Covers.

- (6) Open both Paper Trays.

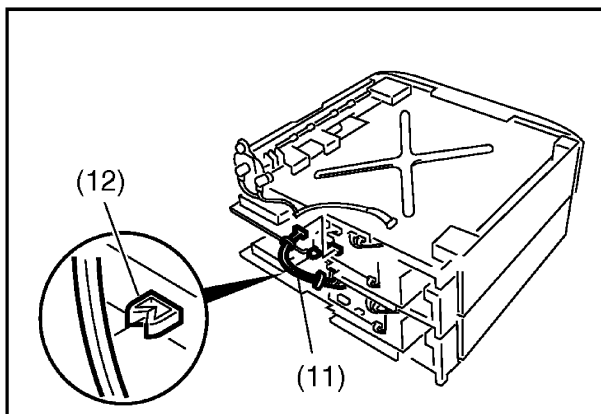


- (7) Connect the 4th Paper Feed Module to the Base Plate with 4 Joint Brackets included in the Base Plate's hardware bag.

- (8) Secure each Joint Bracket with the 4 Screws included in the Base Plate's hardware bag.

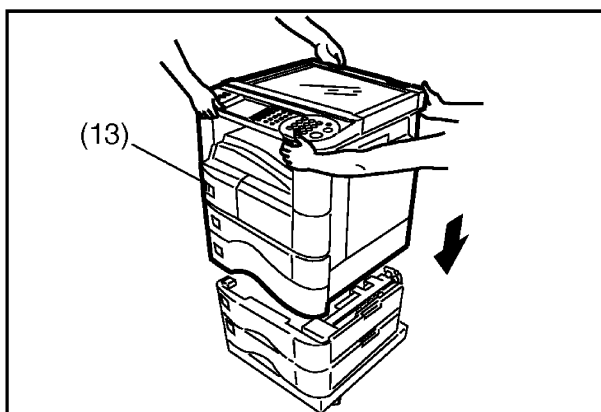
- (9) Connect the 3rd Paper Feed Module to the 4th Paper Feed Module with 4 Brackets (Straight) included with the 4th Paper Feed Module.

- (10) Secure each bracket with the 8 Screws included with the 4th Paper Feed Module.

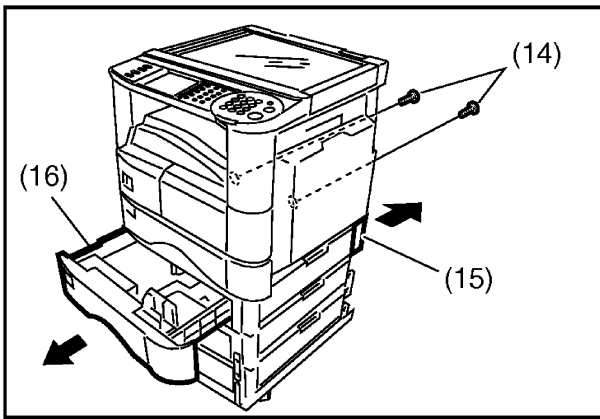


- (11) Connect the 4th Paper Feed Module Harness to CN808 on the CST3 PC Board of the 3rd Paper Feed Module.

- (12) Place the Harness into the Wire Clamp.



- (13) Carefully place the machine on top of the 3rd Paper Feed Module.



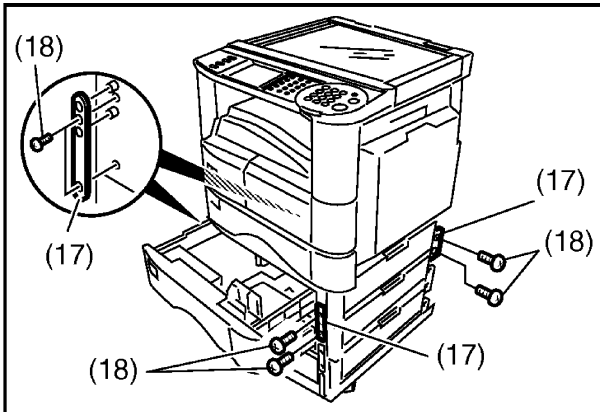
- (14) Remove 2 Screws (Silver) from the Rear Cover of the 2nd Paper Feed Module.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

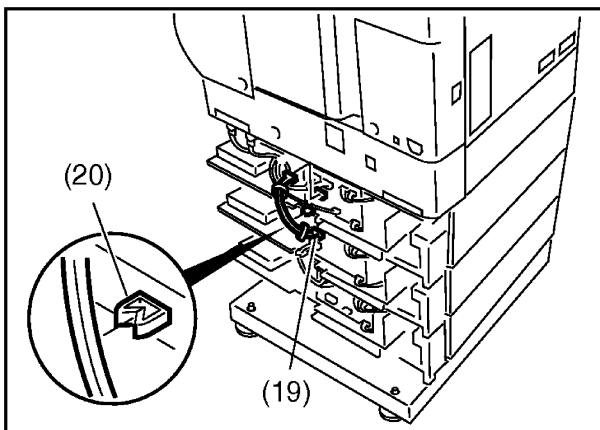
- (15) Remove the Rear Cover.

- (16) Open the Paper Tray No. 2.



- (17) Connect the machine to the 3rd Paper Feed Module with the 4 Brackets (Straight) included with the 3rd Paper Feed Module.

- (18) Secure each bracket with the 8 Screws included with the 3rd Paper Feed Module.



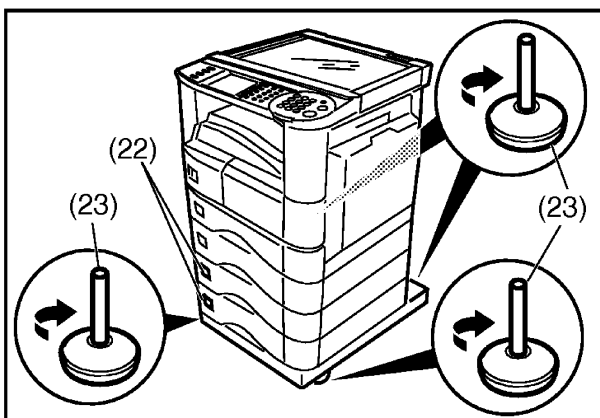
- (19) Connect the 3rd Paper Feed Module Harness to CN772 on the CST2 PC Board of the 2nd Paper Feed Module.

- (20) Place the Harness into the Wire Clamp.

- (21) Re-install the Rear Covers of the 2nd, 3rd and 4th Paper Feed Module and secure the covers with the 6 Screws (Silver) removed in Steps 4 and 14.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.



- (22) Attach the appropriate Paper Size Label to the 3rd and 4th Paper Trays.

- (23) Place the machine in the desired location and lower the leveler on each corner to stabilize the machine.

## 9.19. Installing the Plain Cabinet (DA-DE200) : For USA only

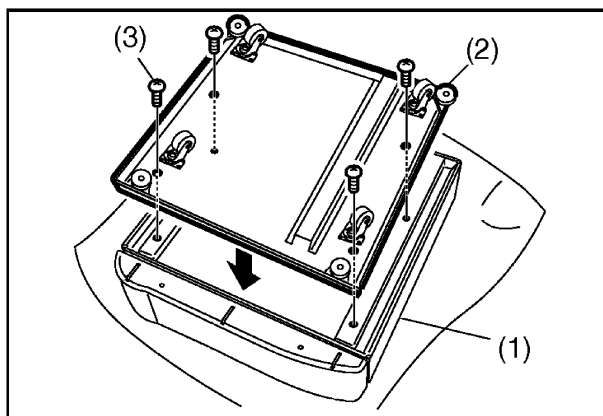
### 9.19.1. Contents

Qty.	Description	Part No.	Remarks
1	Plain Cabinet	-----	
4	Screw (Large)	F03727	
1	Installation Instruction	R01236	This document

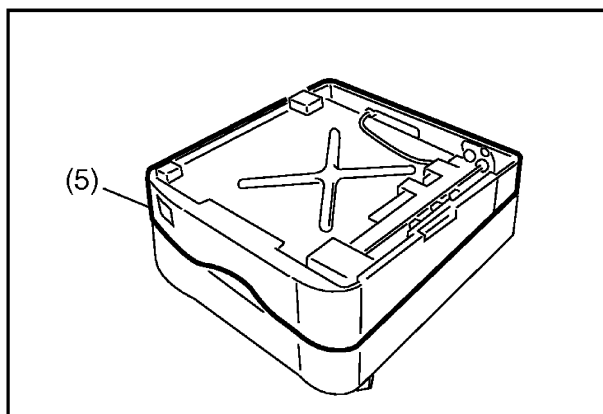
**Note:**

This option requires either the Base Plate with Casters (DA-D200) + the 3rd Paper Feed Module (DA-DS210) or the Plain Stand (DA-D250) to be installed at the same time.

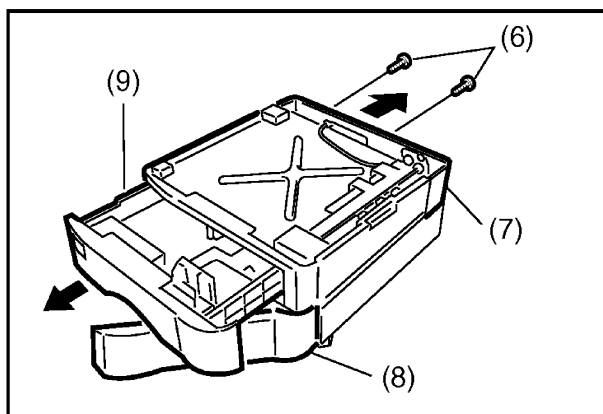
### 9.19.2. Installation for 3-Paper Tray Configuration



- (1) Place the Plain Cabinet with the flat surface (Top) facing downward over a clean cloth on the floor.
- (2) Place the Base Plate (DA-D200) with the casters facing upwards on the Plain Cabinet and align it with the 4 mounting holes.
- (3) Secure the Base Plate to the Plain Cabinet with 4 Screws (Large) included in the Plain Cabinet's hardware bag.



- (4) Turn the Base Plate with the Plain Cabinet over (Right side up).
- (5) Place the 3rd Paper Feed Module (DA-DS210) on top of the Plain Cabinet.

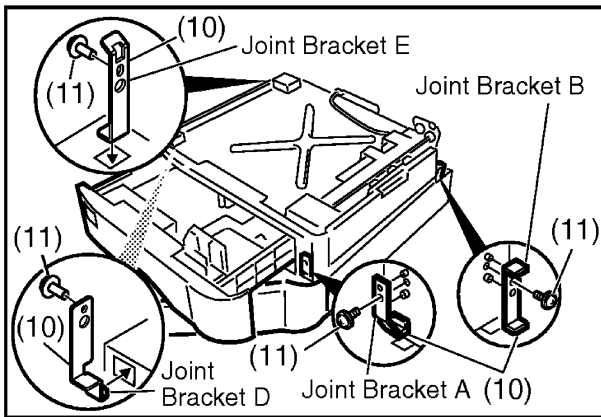


- (6) Remove 2 Screws (Silver) from the Rear Cover of the 3rd Paper Feed Module.

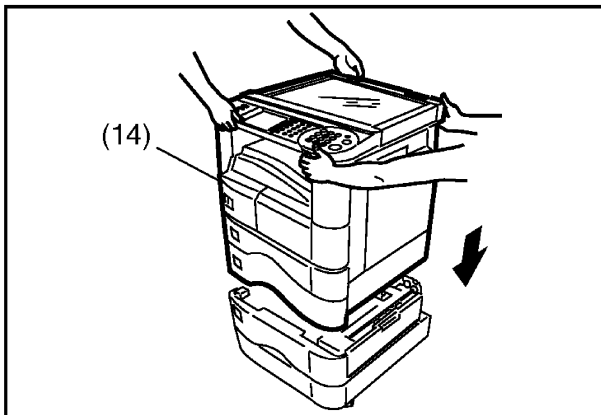
**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

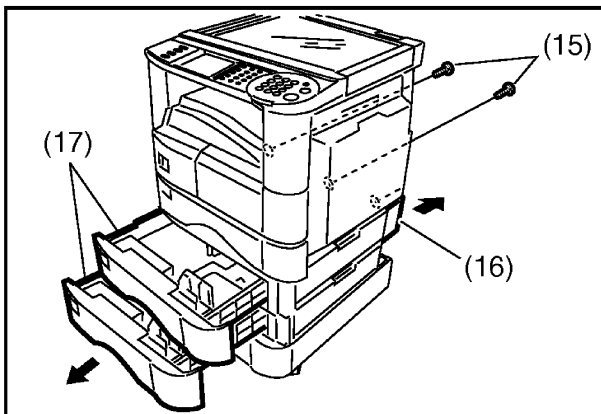
- (7) Remove the Rear Cover.
- (8) Open the Plain Cabinet's Front Cover.
- (9) Open the Paper Tray.



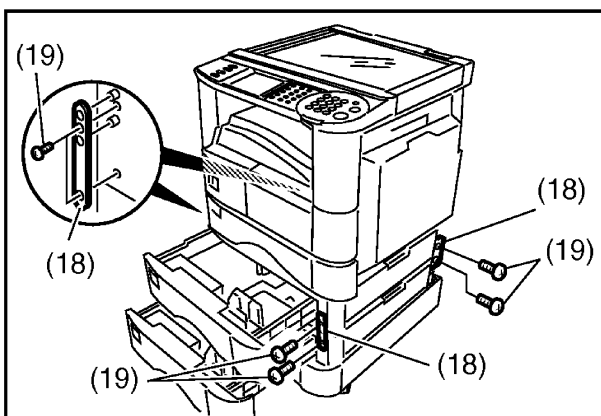
- (10) Connect the 3rd Paper Feed Module to the Plain Cabinet with 4 Joint Brackets included in the Base Plate's hardware bag.
- (11) Secure each Joint Bracket with the 4 Screws included in the Base Plate's hardware bag.
- (12) Close the Paper Tray.
- (13) Close the Plain Cabinet's Front Cover.



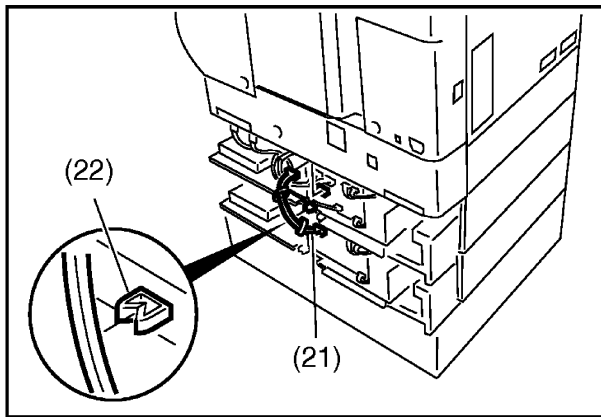
- (14) Carefully place the machine on top of the 3rd Paper Feed Module.



- (15) Remove 2 Screws (Silver) from the Rear Cover on the 2nd Paper Feed Module.
- Note:**  
The number of screws may vary on units produced prior to Dec. 2000.
- (16) Remove the Rear Cover.
- (17) Open the Paper Trays No. 2 and 3.



- (18) Connect the machine to the 3rd Paper Feed Module with the 4 Brackets (Straight) included with the 3rd Paper Feed Module.
- (19) Secure each bracket with the 8 Screws included with the 3rd Paper Feed Module.
- (20) Close the Paper Trays No. 2 and 3.



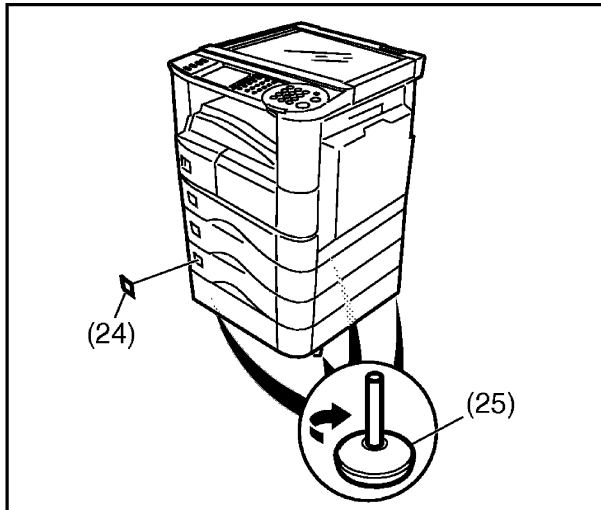
(21) Connect the 3rd Paper Feed Module Harness to CN772 on the CST2 PC Board of the 2nd Paper Feed Module.

(22) Place the Harness into the Wire Clamp.

(23) Re-install the Rear Covers of the 2nd and 3rd Paper Feed Module and secure the covers with the 4 Screws (Silver) removed in Steps 6 and 15.

**Note:**

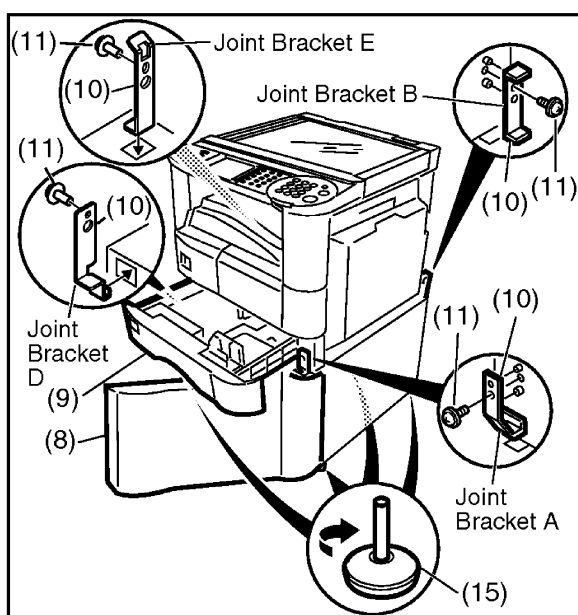
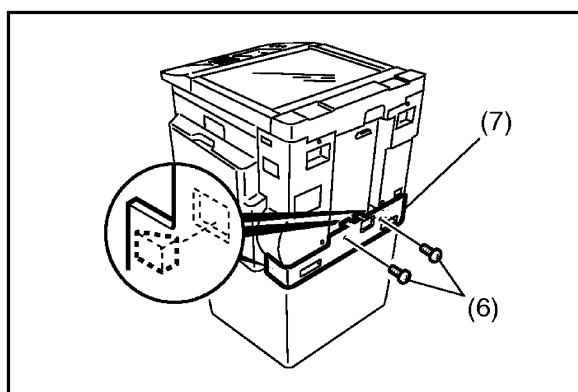
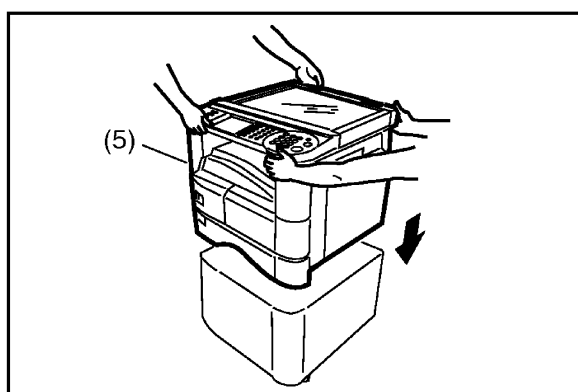
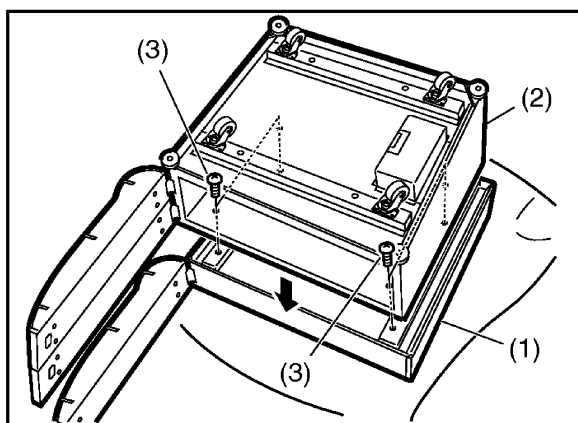
The number of screws may vary on units produced prior to Dec. 2000.



(24) Attach the appropriate Paper Size Label to the 3rd Paper Tray.

(25) Place the machine in the desired location and lower the leveler on each corner to stabilize the machine.

### 9.19.3. Installation for DP-2000 configured with 1 Paper Tray only



- (1) Place the Plain Cabinet with the flat surface (Top) facing downward over a clean cloth on the floor.
- (2) Place the Plain Stand (DA-D250) with the casters facing upwards on the Plain Cabinet and open both Front Covers that are interlocked together.
- (3) Secure the Plain Stand to the Plain Cabinet with 4 Screws (Large) included in the Plain Cabinet's hardware bag.

- (4) Turn the Plain Stand with the Plain Cabinet over (Right side up).
- (5) Place the machine on top of the Cabinet Stand.

- (6) Remove 2 Screws (Silver) from the Lower Rear Cover.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (7) Remove the Lower Rear Cover.

- (8) Open the Cabinet Stand's Front Cover.

- (9) Open the Paper Tray.

- (10) Connect the machine to the Cabinet Stand with 4 Joint Brackets included in the Plain Stand's hardware bag.

- (11) Secure each Joint Bracket with the 4 Screws included in the Plain Stand's hardware bag.

- (12) Close the Paper Tray.

- (13) Close the Cabinet Stand's Front Cover.

- (14) Re-install the Lower Rear Cover and secure it with the 2 Screws (Silver) removed in Step 6.

**Note:**

The number of screws may vary on units produced prior to Dec. 2000.

- (15) Place the machine in the desired location and lower the leveler on each corner to stabilize the machine.

## 9.20. Installing the Dual-Path Exit Guide Unit (DA-FK200)

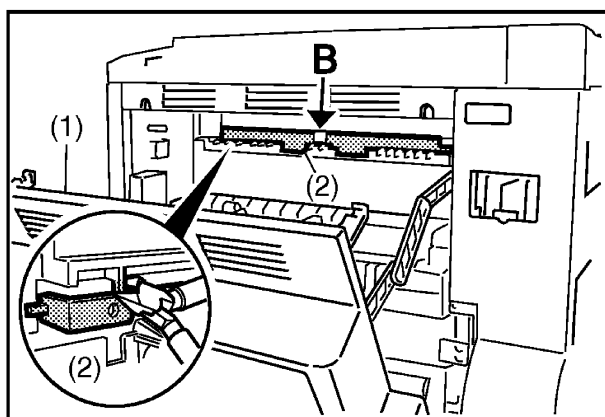
### 9.20.1. Contents

Qty.	Description	Part No.	Remarks
1	Dual-Path Exit Guide Unit	DZHP003709	
2	Screw	XSN3+W8FC	
1	Discharge Brush	DZGT000024	
1	Dual Path Extension Harness 1	DZFP000854	
1	Installation Guide	DZSM000292	This document

### 9.20.2. Installation

**Note:**

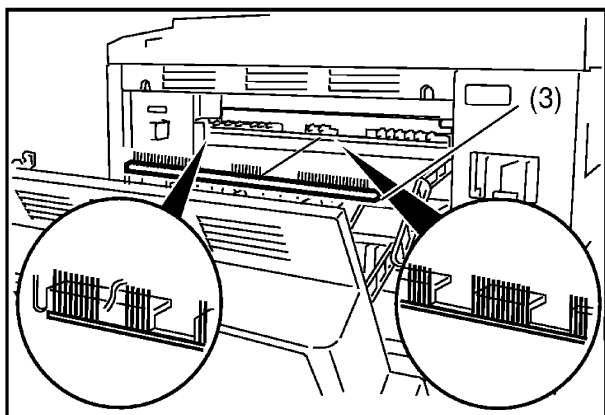
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



- (1) Open the Right Cover.
- (2) Break off the protective tab of the Exit Cover. (B Section)

**Note:**

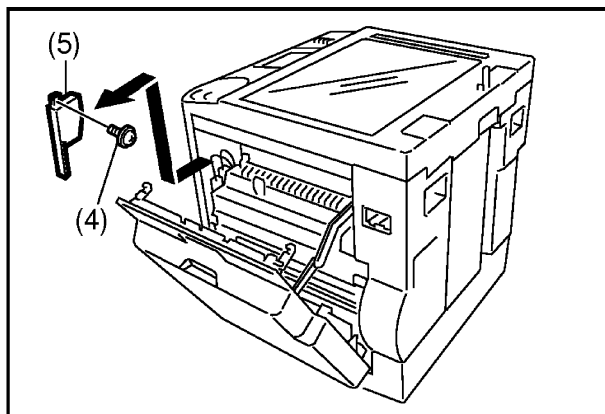
Cut ends neatly.



- (3) Paste the Discharge Brush as illustrated on the left.

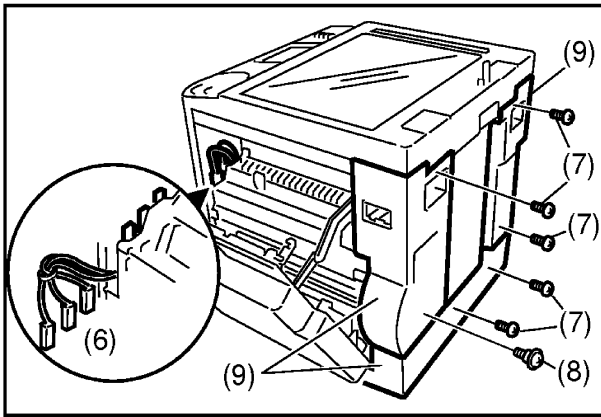
**Note:**

Before pasting the Discharge Brush, clean the Eject Frame with a soft cloth, soaked with isopropyl alcohol.

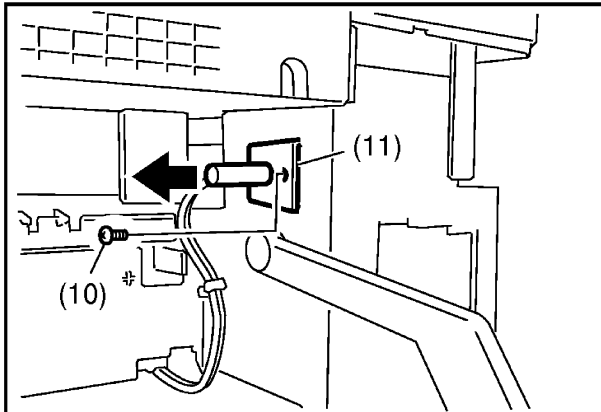


- (4) Remove 1 Screw.
- (5) Remove the Fuser Lamp Harness Cover.

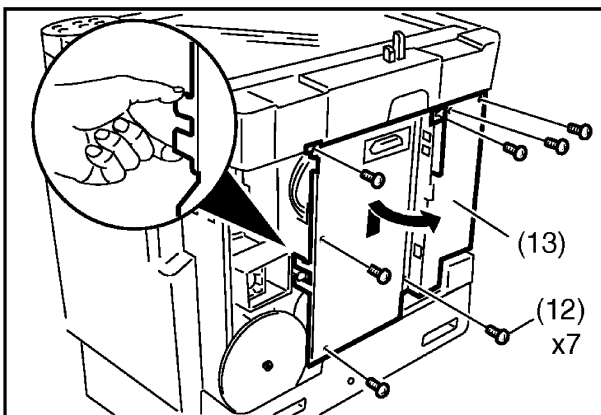




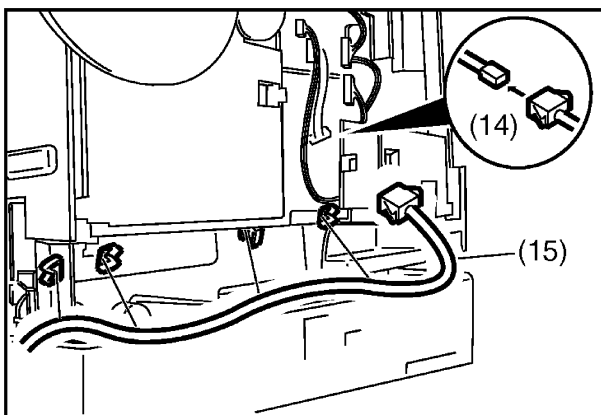
- (6) Disconnect the 3 Harnesses and pull them forward as illustrated on the left.
- (7) Remove 5 Screws (Silver).
- (8) Remove 1 Shoulder Screw (Silver).
- (9) Remove the Right Rear Cover, the Left Rear Cover and the Lower Rear Cover.



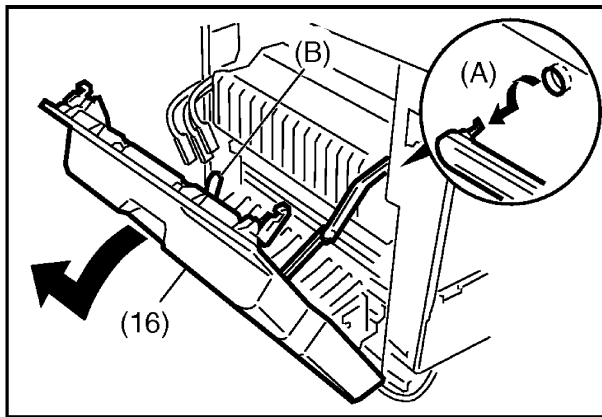
- (10) Remove 1 Screw.
- (11) Remove the Support Plate.



- (12) Remove 7 Screws.
- (13) Open the Rear Plate as illustrated on the left.



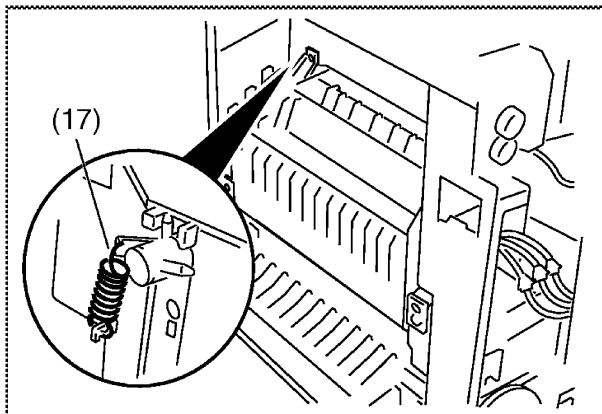
- (14) Disconnect the Connector of the Right Cover.
- (15) Remove the Harness from 4 clamps.



- (16) Remove the Rear Arm (A), Front Arm (B) and then remove the Right Cover.

**Note:**

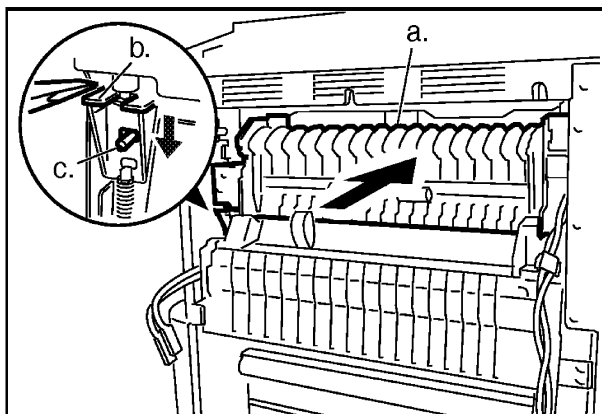
Please remove the Right Cover completely to prevent damage that could cause duplex skewing and jamming.



- (17) Remove the Spring using tweezers.

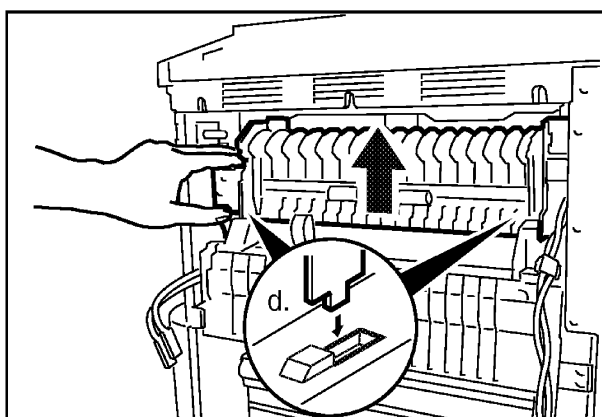
**Note:**

This Spring will not be used.

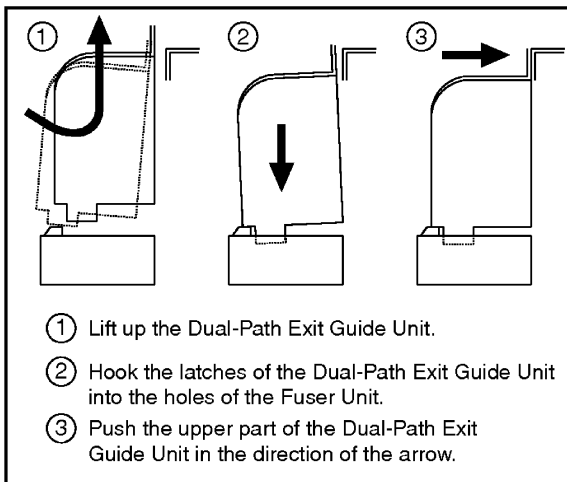


- (18) Install the Dual-Path Exit Guide Unit.

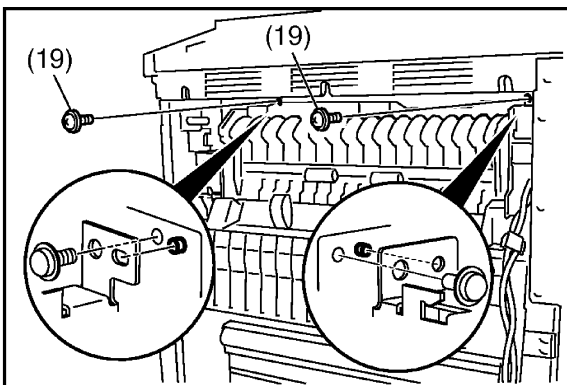
- Temporarily install the Dual-Path Exit Guide Unit on top of the Fuser Unit.
- Push down the Solenoid Arm slightly using a minus screwdriver as illustrated on the left.
- Make sure that the round-head part of the Turn Guide is projecting from the square hole on the White Solenoid Stay.



- Lift the Dual-Path Exit Guide Unit and hook the latches of the Dual-Path Exit Guide Unit into the holes of the Fuser Unit.



e. The procedure for installing the Dual-Path Exit Guide Unit looking from the side is illustrated on the left.



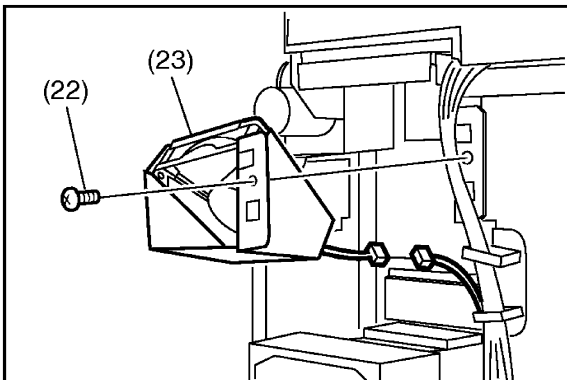
(19) Secure the Dual-Path Exit Guide Unit with 2 Screws.

**Note:**

When securing the Dual-Path Exit Guide Unit, align 2 bosses on both sides as shown on the left.

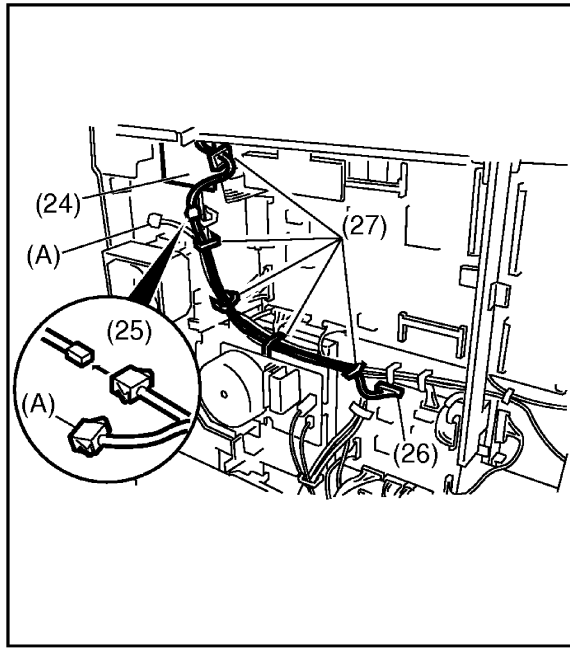
(20) Re-connect the 3 Fuser Harnesses disconnected in the step (6).

(21) Re-install the Fuser Lamp Harness Cover, and then secure with 1 Screw.



(22) Remove 1 Screw.

(23) Disconnect the harness of the Fan Assembly and remove the Fan Assembly.



- (24) Pass the Dual Path Harness 2 through the opening at the right corner of the Dual-Path Exit Guide Unit.
- (25) Connect the Dual Path Extension Harness 1 and Dual Path Harness 2.  
**Note:**  
Do NOT connect the smaller connector (A). It is reserved for the Automatic Duplex Unit, which is not connected at this time.
- (26) Connect the Dual Path Extension Harness 1 to CN719 on the LPC PC Board.
- (27) Put the Harness into the 5 clamps (4 black clamps and 1 white clamp) as illustrated on the left.
- (28) Re-install the Fan Assembly.
- (29) Proceed with the installation of other options.  
If finished, close and secure the Rear Plate and re-install the remaining Covers and other parts.

## 9.21. Installing the Paper Transport Unit (DA-FK210)

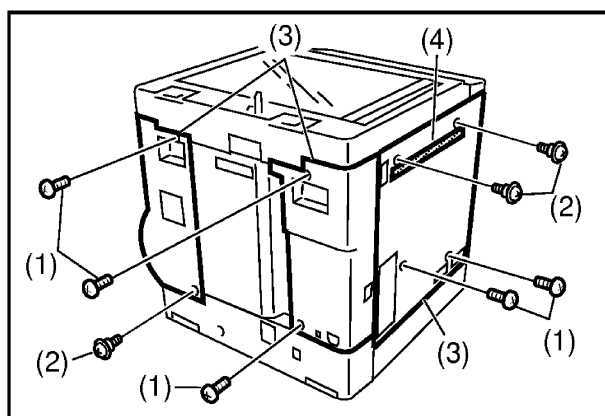
### 9.21.1. Contents

Qty.	Description	Part No.	Remarks
1	Paper Transport Unit	DZHP004214	
7	Screw	XTB3+8J	
1	EXFD Extension Harness	DZFP000857	
1	Top Guide	DZHP004210	
1	Installation Guide	DZSM000294	This document

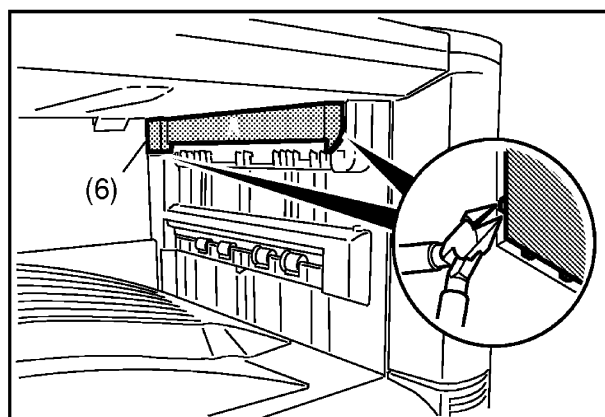
### 9.21.2. Installation

**Note:**

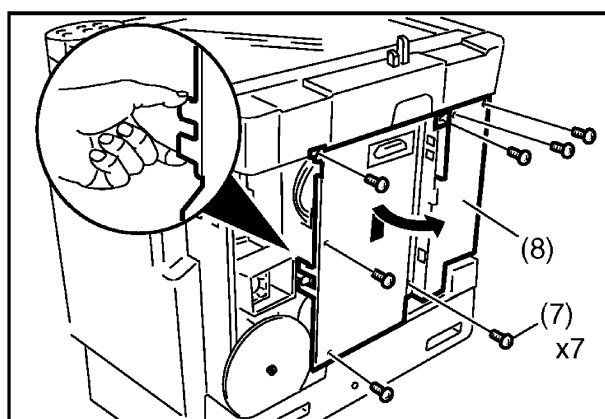
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



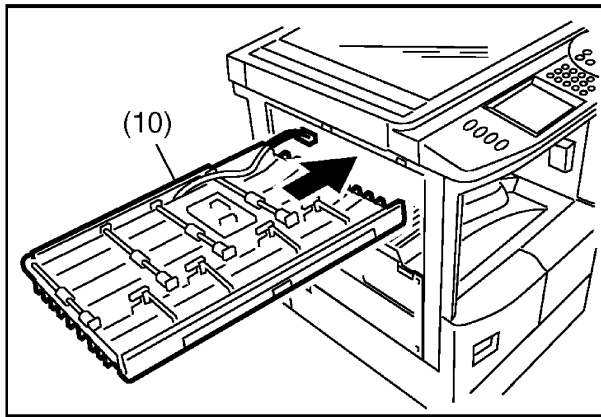
- (1) Remove 5 Screws (Silver).
- (2) Remove 3 Shoulder Screws (Silver).
- (3) Remove the Left Rear Cover, Right Rear Cover and Left Side Cover.
- (4) Break off the protective tab on the Left Side Cover.



- (5) Remove the Dual-Path Exit Guide Unit if the Dual-Path Exit Guide Unit has already been installed.
- (6) Break off the protective tab on the Exit Cover (A Section).



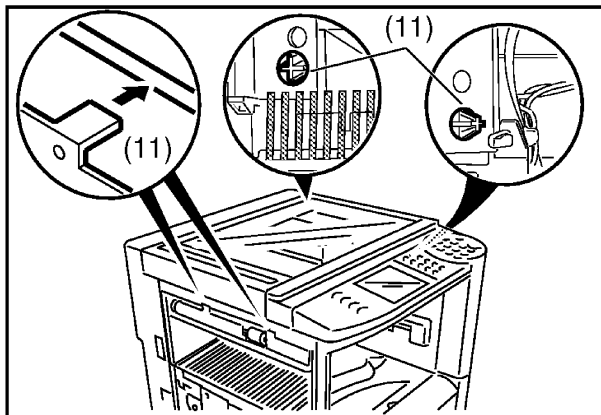
- (7) Remove 7 Screws.
- (8) Open the Rear Plate as illustrated on the left.



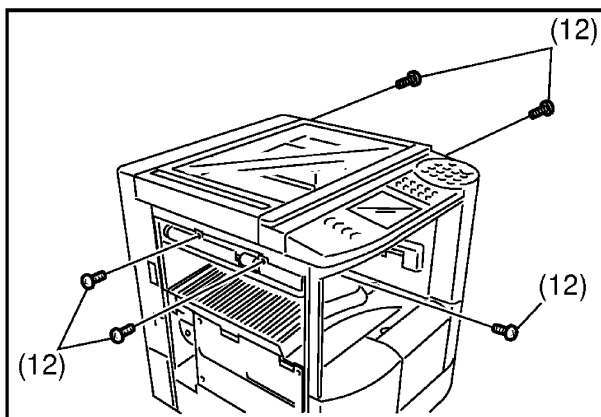
- (9) Open the Right Cover.  
 (10) Install the Paper Transport Unit.

**Note:**

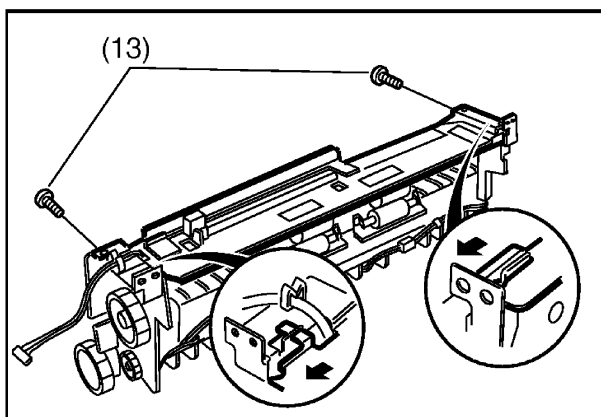
When installing the Paper Transport Unit, put the Harness of the Paper Transport Unit through the opening of the Exit Cover. (Refer to the step (6)).



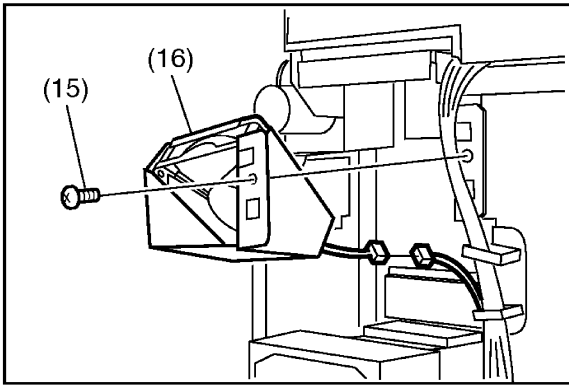
- (11) Align 2 bosses on the right of the machine and 2 Hooks on the left of the machine to install the Paper Transport Unit properly.



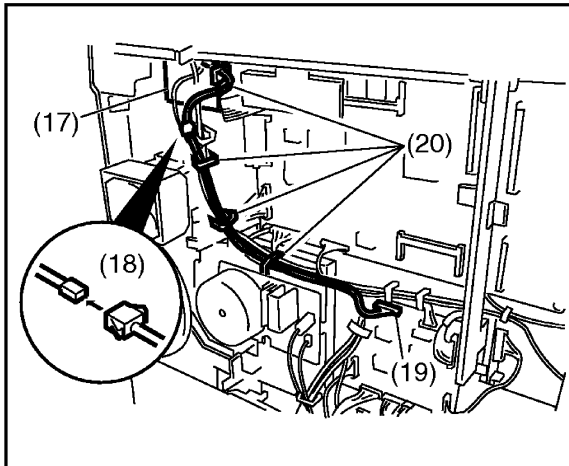
- (12) Secure the Paper Transport Unit with 5 Screws.



- (13) Install the Top Guide on the Dual-Path Exit Guide Unit and secure with 2 Screws.  
 (14) Install the Dual-Path Exit Guide Unit. (Refer to the Installation Guide for the Dual-Path Exit Guide Unit)



- (15) Remove 1 Screw.
- (16) Disconnect the harness of the Fan Assembly and remove the Fan Assembly.



- (17) Pass the EXFD Harness 2 through the opening at the right corner.
- (18) Connect the EXFD Harness 2 to the EXFD Extension Harness.
- (19) Connect the EXFD Extension Harness to CN718 on the LPC PC Board.
- (20) Place the EXFD Extension Harness into the 4 clamps (3 black clamps and 1 white clamp) as illustrated on the left.
- (21) Re-install the Fan Assembly.
- (22) Proceed with the installation of other options.  
If finished, close and secure the Rear Plate and re-install the remaining Covers and other parts.

## 9.22. Installing the Automatic Duplex Unit (DA-MD200)

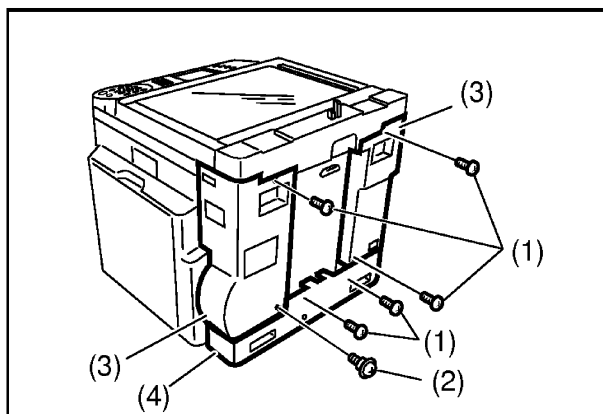
### 9.22.1. Contents

Qty.	Description	Part No.	Remarks
1	Guide 1 Assembly	DZHP003999	
1	Guide 2 Assembly	DZHP003726	
1	Guide 3 Assembly	DZHP003733	
1	Harness Clamp	DZJK000042	
7	Screw	XTB3+8J	
1	SDRM PC Board	DZEC101666	16 MB
1	Installation Guide	DZSM000293	This document

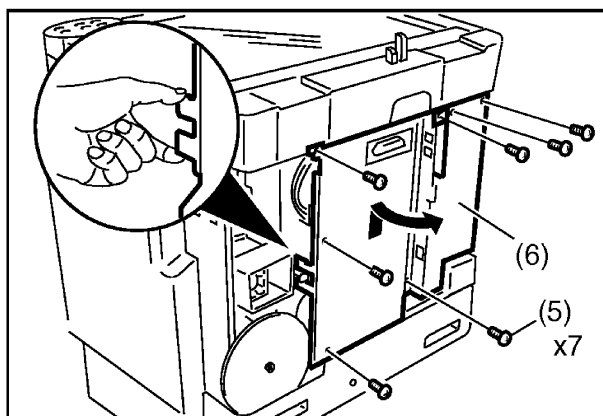
### 9.22.2. Installation

**Note:**

1. Make sure that the Paper Transport Unit (DA-FK210) and the Dual-Path Exit Guide Unit (DA-FK200) have already been installed.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.

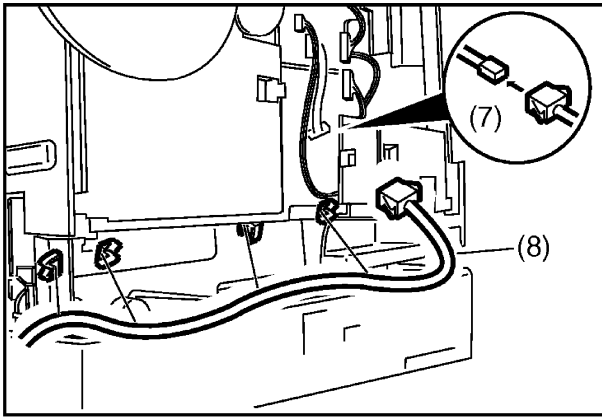


- (1) Remove 5 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and the Right Rear Cover.
- (4) Remove the Lower Rear Cover.

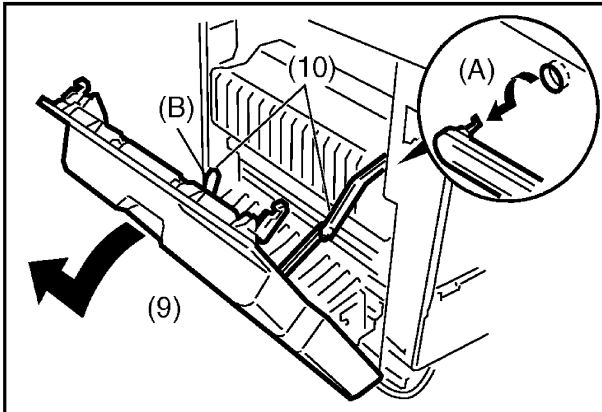


- (5) Remove 7 Screws.
- (6) Open the Rear Plate as illustrated on the left.





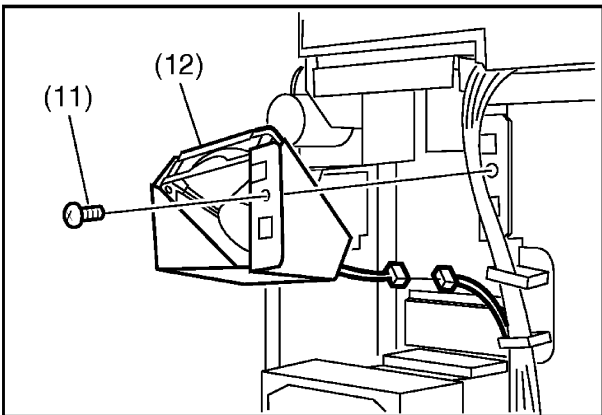
- (7) Disconnect the Intermediate Connector (Gray) of the Right Cover.
- (8) Remove the Harness from the 4 clamps.



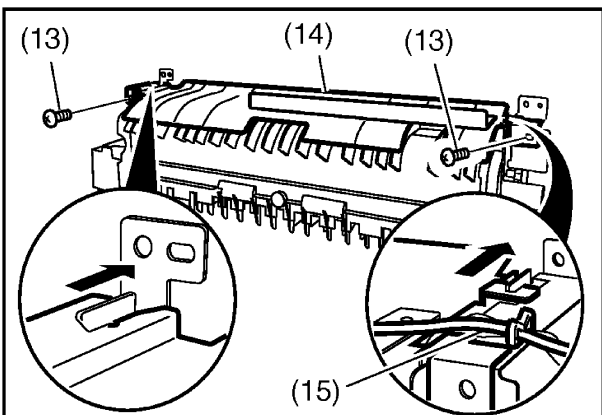
- (9) Open the Right Cover.
- (10) Remove the Rear Arm (A), Front Arm (B) and then remove the Right Cover.

**Note:**

Please remove the Right Cover completely to prevent damage that could cause duplex skewing and jamming.



- (11) Remove 1 Screw.
- (12) Disconnect the harness of the Fan Assembly and remove the Fan Assembly.

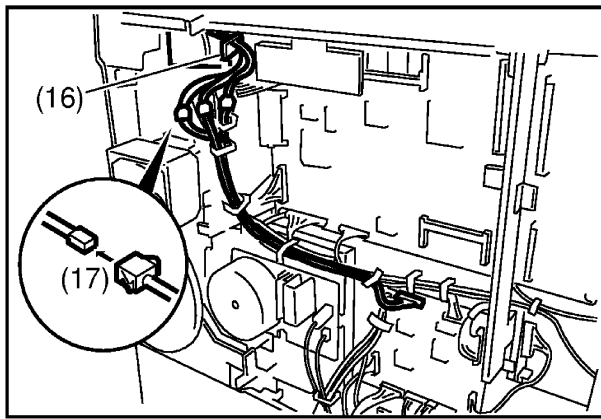


- (13) Remove 2 Screws.
- (14) Replace the Top Guide of the Dual-Path Exit Guide Unit with the Guide 1 Assembly.

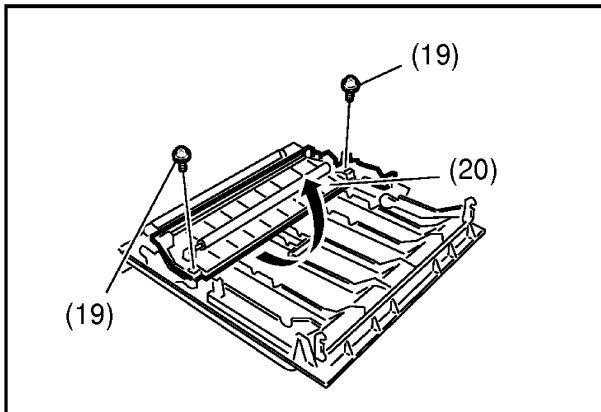
**Note:**

If you have already replaced the Top Guide of the Dual-Path Exit Guide Unit with the Guide 1 Assembly from this kit during installation, skip to step (16).

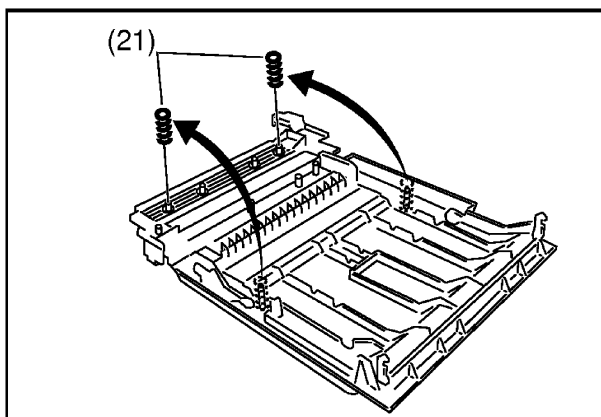
- (15) Place the Harness of the Guide 1 Assembly into the harness clamp.



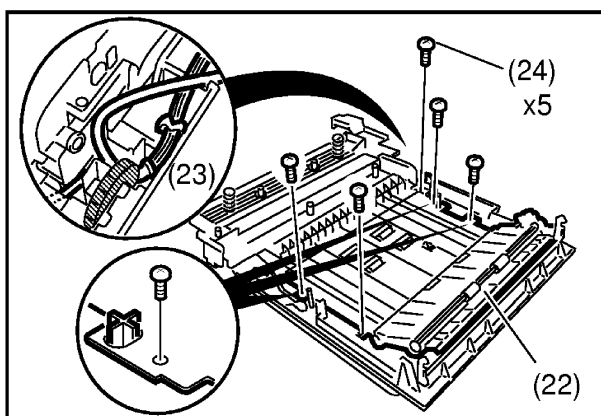
- (16) Pass the Harness of the Guide 1 Assembly through the opening at the right corner of the Dual-Path Exit Guide Unit, and place the harness into the white clamp.
- (17) Connect the Harness of the Guide 1 Assembly as illustrated on the left.
- (18) Re-install the Fan Assembly.



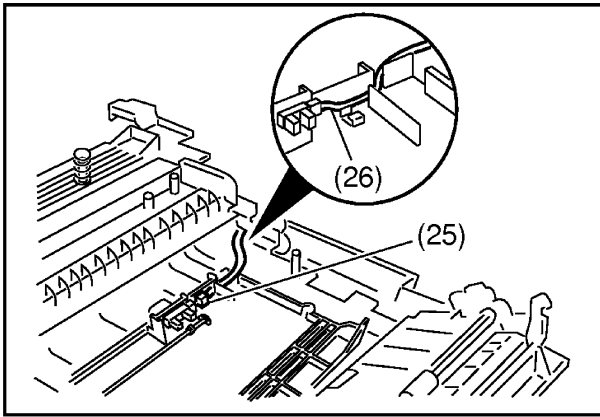
- (19) Remove the 2 Screws.
- (20) Lift the Transport Cover in the direction of the arrow.



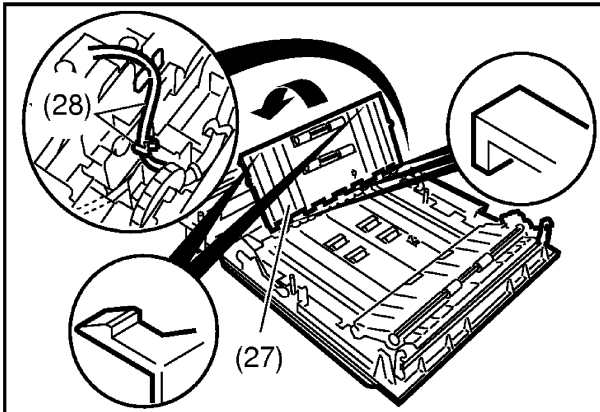
- (21) Move the 2 Transfer Guide Springs on the Right Cover to the bosses on the Transport Cover as shown on the left.



- (22) Install the Guide 2 Assembly into the Right Cover.
- (23) Put the Harness of the Guide 2 in the space of the Right Cover as shown on the left and place the Harness into the clamp, so as not to touch the Harness to the gear.
- Note:**  
Make sure that the Harness is not touching the gears.
- (24) Secure the Guide 2 Assembly to the Right Cover with 5 Screws.



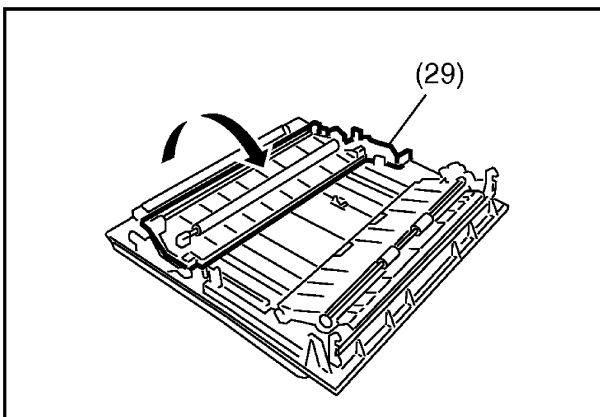
- (25) Connect the Harness of the Guide 2 Assembly to the sensor of the Guide 3 Assembly.
- (26) Route the Harness through the Hooks on the Guide 3 Assembly.



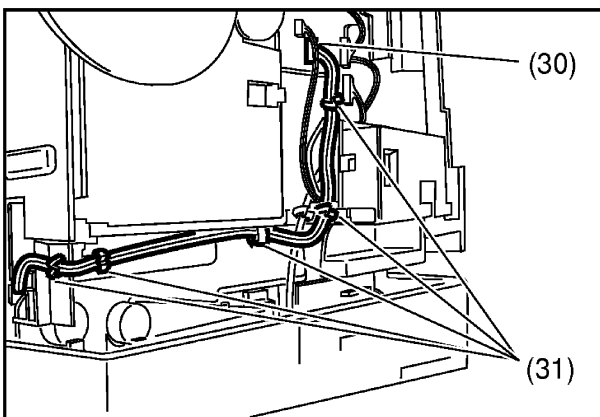
- (27) Lock the Guide 3 Assembly onto the Transport Cover.
- (28) Install the harness clamp (Black) and place the Harness of the Guide 3 Assembly into the clamp and put it through the hook on the Transport Cover as illustrated on the left.

**Note:**

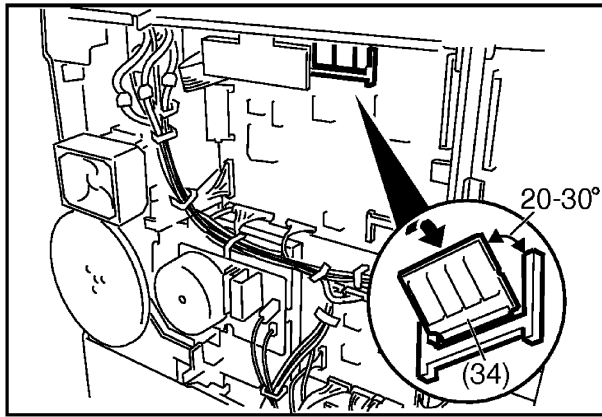
Make sure that the Harness is not touching the gears.



- (29) Put the Transport Cover back in the direction of the arrow. Screws are not needed to secure.



- (30) Re-install the Right Cover on the machine.
- (31) Reconnect the Intermediate Connector of the Right Cover and place the Harness into the clamps.
- (32) Connect the Harness of the Automatic Duplex Unit to CN711 on the LPC PC Board.
- (33) Place the Harnesses into the 5 clamps as shown on the left.



- (34) Insert the SDRM PC Board (16 MB) into the Duplex Memory socket on the SC PC Board as illustrated on the left.

**Note:**

Make sure to insert the SDRM PC Board with 20 - 30° angle against the memory socket.

- (35) Proceed with the installation of other options.  
If finished, close and secure the Rear Plate and re-install the remaining Covers and other parts.

### 9.22.3. Lead Edge Registration Adjustment

#### Lead Edge Registration Adjustment (ADU) for DP-2000

1. Place Test Chart 53/54 on the Platen Glass.
2. Select the "2-SIDED/ORIG->COPY" Mode.
3. Select "1 -> 2" function.
4. Select "Long edge" bind position.
5. Press the "SET" key
6. Press the "START" key.
7. The 1st side of the Test Chart is scanned, and "ANOTHER ORIGINAL?" appears on the Control Panel display. Remove the Test Chart from the Platen Glass and close the ADF.
8. Press the "1" key.
9. Press the "START" key.
10. After the copy of the Test Chart is printed (1-Sided), check the Lead Edge Registration (use the leading edge scale indicators on the Test Chart).

**Note:**

The copier's leading edge void area is approximately 1 ~ 4 mm.

11. If adjustment is required, press "FUNCTION", ORIGINAL Size "LEDGER/A3", and "3" keys simultaneously to enter the Service Mode.
12. Select F6-06 [REGIST. (ADU)] Mode.
13. Enter the required adjustment value using the keypad (-30 ~ +30).

**Note:**

A value of "1", shifts the image by approximately 0.25 mm.

Press the "RESET" key to change the number to "-" or "+".

- Use (+) : If paper feed timing is delayed. The image is advanced (cut off at the leading edge).
- Use (-) : If paper feed timing is advanced. The image is delayed (cut off at the trailing edge).

**EX:**

If the customer requires 4 mm void and your measurement shows 2.5 mm from the leading edge of image to the edge of paper, the image is advanced by 1.5 mm ( $4\text{ mm} - 2.5\text{ mm} = 1.5\text{ mm}$ ), enter a value of +6 ( $0.25\text{ mm} \times 6 = 1.5\text{ mm}$ ) for the adjustment.

14. Press the "SET" key.
15. Press the "CLEAR" key.
16. Press the "FUNCTION" and "CLEAR" keys simultaneously to exit from the Service Mode.
17. Repeat Steps 1 ~ 10 and confirm the adjustment. If additional adjustment is required, repeat Steps 1 ~ 16.

## Lead Edge Registration Adjustment (ADU) for DP-2500/3000

1. Place Test Chart 53/54 on the Platen Glass.
2. Select the "2-SIDED/ORIG->COPY" Mode.
3. Select "1 -> 2" function.
4. Select "Long edge" bind position.
5. Press the "OK" key
6. Press the "START" key.
7. The 1st side of the Test Chart is scanned, and "ANOTHER ORIGINAL?" appears on the touch panel display. Remove the Test Chart from the Platen Glass and close the ADF.
8. Press the "YES" key.
9. Press the "START" key.
10. After the copy of the Test Chart is printed (1-Sided), check the Lead Edge Registration (use the leading edge scale indicators on the Test Chart).

### Note:

The copier's leading edge void area is approximately 1 ~ 4 mm.

11. If adjustment is required, press "FUNCTION", ORIGINAL Size "LEDGER/A3", and "3" keys simultaneously to enter the Service Mode.
12. Select F6-06 [REGIST. (ADU)] Mode.
13. Enter the required adjustment value using the keypad (-30 ~ +30).

### Note:

A value of "1", shifts the image by approximately 0.25 mm.

Press the "RESET" key to change the number to "-" or "+".

- Use (+) : If paper feed timing is delayed. The image is advanced (cut off at the leading edge).
- Use (-) : If paper feed timing is advanced. The image is delayed (cut off at the trailing edge).

### EX:

If the customer requires 4 mm void and your measurement shows 2.5 mm from the leading edge of image to the edge of paper, the image is advanced by 1.5 mm ( $4\text{ mm} - 2.5\text{ mm} = 1.5\text{ mm}$ ), enter a value of +6 ( $0.25\text{ mm} \times 6 = 1.5\text{ mm}$ ) for the adjustment.

14. Press the "OK" key.
15. Press the "CANCEL" key.
16. Press the "FUNCTION" and "CLEAR" keys simultaneously to exit from the Service Mode.
17. Repeat Steps 1 ~ 10 and confirm the adjustment. If additional adjustment is required, repeat Steps 1 ~ 16.

## 9.23. Installing the Exit Tray [Inner] (DA-XN200)

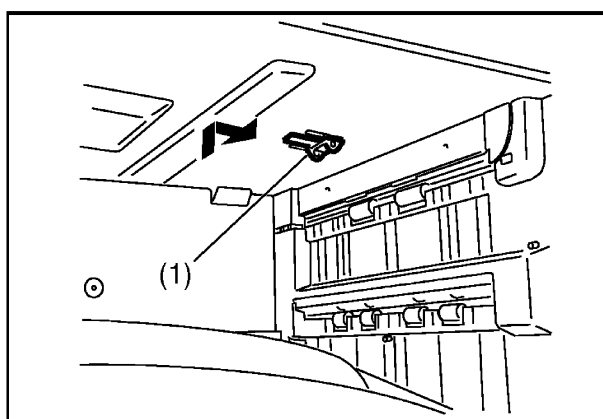
### 9.23.1. Contents

Qty.	Description	Part No.	Remarks
1	Inner Tray	DZML000339	
1	Paper Holder Base	DZJA000782	
1	Paper Holder	DZJM000473	
1	Installation Guide	DZSM000295	This document

### 9.23.2. Installation

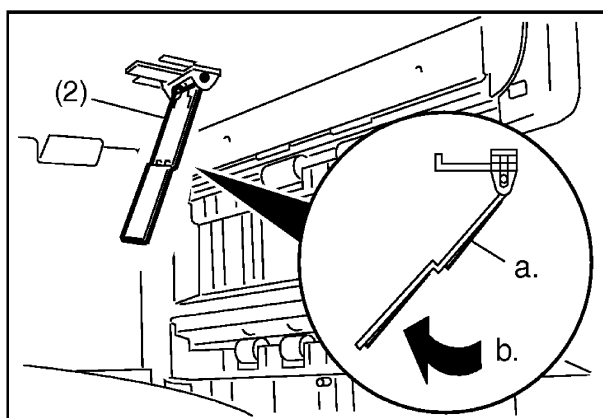
**Note:**

1. Make sure that the Dual-Path Exit Guide Unit has been installed before installing the Inner Tray.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



**<When only the Dual-Path Exit Guide Unit is installed>**

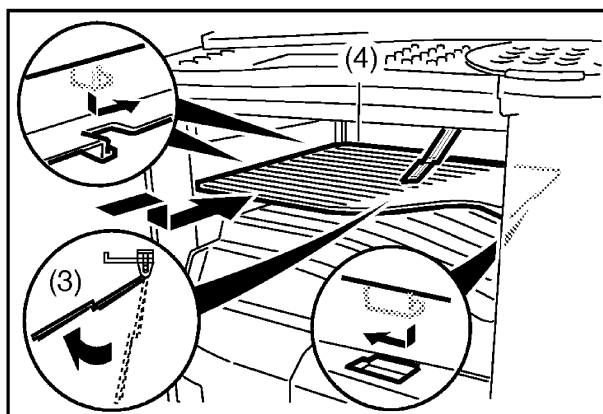
- (1) Install the Paper Holder Base into the holes as illustrated on the left.



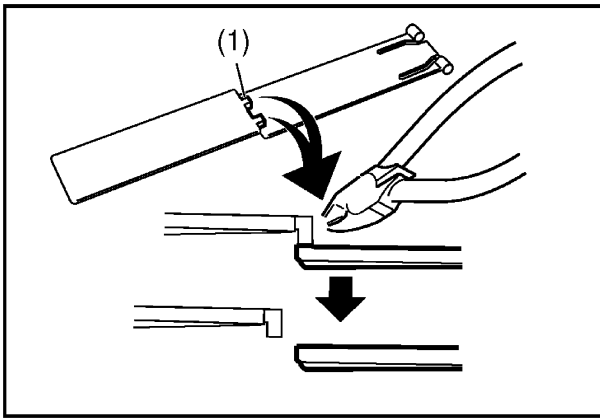
- (2) Install the Paper Holder to the Paper Holder Base.

**Note:**

- a. Make sure that the rib side of the Paper Holder is facing the exit cover.
- b. When installing, swing the bottom part of the Paper Holder to the left as shown.



- (3) Swing the Paper Holder to the left.
- (4) Install the Inner Tray in the direction of the arrow holding up the Paper Holder.

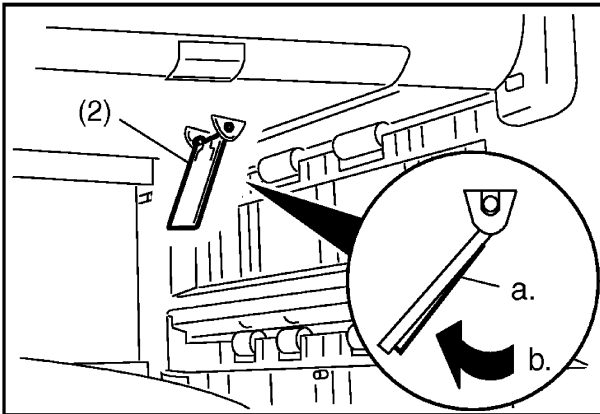


**<When the Dual-Path Exit Guide Unit and the Paper Transport Unit are installed>**

- (1) Cut off the Paper Holder at the joint into two parts with a nipper as shown on the left.

**Note:**

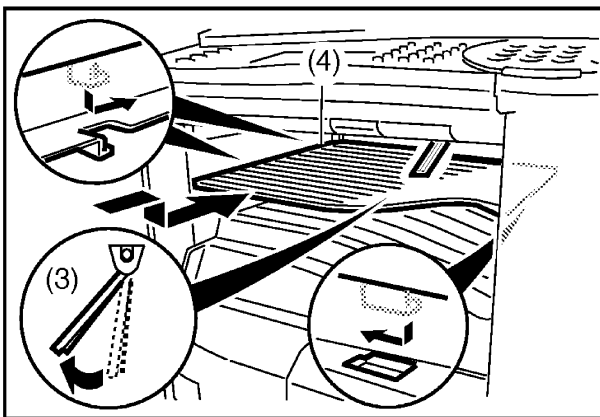
- a. Cut ends neatly.
- b. Dispose of the bottom part of the Paper Holder.



- (2) Install the Paper Holder to the Paper Holder Base which is already installed on the center of the Jam Cover.

**Note:**

- a. Make sure that the rib side of the Paper Holder is facing the exit cover.
- b. When installing, swing the bottom part of the Paper Holder to the left as shown.



- (3) Swing the Paper Holder to the left.

- (4) Install the Inner Tray in the direction of the arrow holding up the Paper Holder.

## 9.24. Installing the Exit Tray [Outer] (DA-XT200)

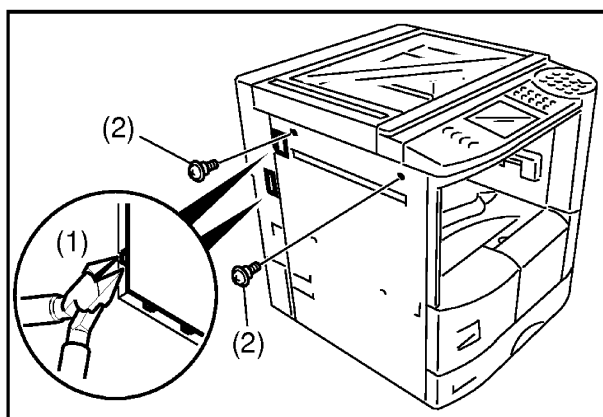
### 9.24.1. Contents

Qty.	Description	Part No.	Remarks
1	Outer Cover Assembly	DZHP003762	
1	Exit Tray Assembly	DZML000343	
4	Screw	DZPB000007	Silver
1	Installation Guide	DZSM000296	This document

### 9.24.2. Installation

**Note:**

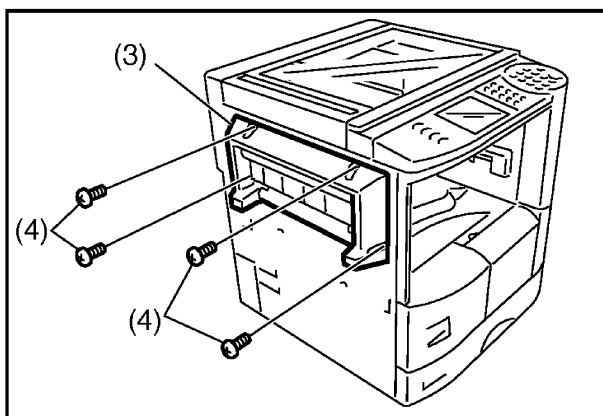
1. Make sure that the Paper Transport Unit (DA-FK210) and the Dual-Path Exit Guide Unit (DA-FK200) have already been installed.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



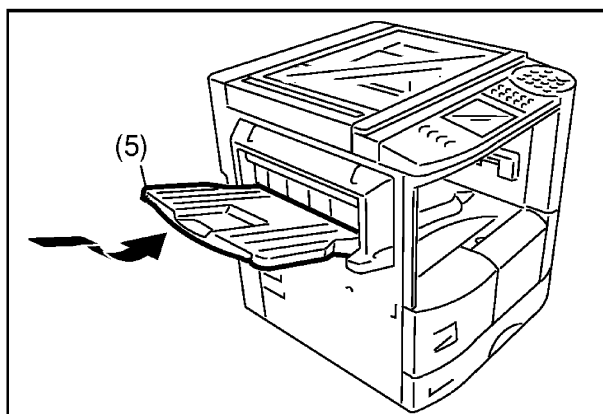
- (1) Break off the protective tabs on the Left Side Cover and the Left Rear Cover (Upper Tab Only).
- (2) Remove 2 Shoulder Screws (Silver) on the upper side of the Left Side Cover.

**Note:**

These Shoulder Screws will not be needed.



- (3) Install the Outer Cover Assembly.
- (4) Secure the Outer Cover Assembly with 4 Screws (Silver) which came with this kit.



- (5) Install the Exit Tray Assembly to the Outer Cover Assembly.



## 9.25. Installing the 1-Bin Finisher (DA-FS200/FS205, DA-FS200S)

### 9.25.1. Contents

**Note:**

Order the required Installation Kit for 1-Bin Finisher (DA-FS200S) separately.

#### USA/Canada: 1-Bin Finisher (DA-FS200-PUA) For DP-2000/2500/3000

Qty.	Description	Part No.	Remarks
1	1-Bin Finisher	-	
1	Latch Catcher	DZJA000739	
2	Kit Fixing Claw	DZJE000807	
1	IPC Interface Board	DZAA001208	
3	Spacer	DZJH000078	Stand offs
2	Screw	DZPA000028	
2	Washer	DZPK000018	
2	Screw	DZPA000029	4x6, Silver
1	Screw	DZPA000032	4x20, Black
4	Screw	DZPA000030	4x25, Black
1	EP-ROM	DZAD000858	Required on DP-3000 installations
1	Installation Guide (1-Bin Finisher)	DZSM000280	This document
1	Installation Guide (EP-ROM)	DZSM000435	Supplement for PUA

#### Other Countries: 1-Bin Finisher (DA-FS200: For DP-2000/2500, DA-FS205: For DP-3000)

Qty.	Description	Part No.	Remarks
1	1-Bin Finisher	-	
1	Latch Catcher	DZJA000739	
2	Kit Fixing Claw	DZJE000807	
1	IPC Interface Board	DZAA001208	
3	Spacer	DZJH000078	Stand offs
2	Screw	DZPA000028	
2	Washer	DZPK000018	
2	Screw	DZPA000029	4x6, Silver
1	Screw	DZPA000032	4x20, Black
4	Screw	DZPA000030	4x25, Black
1	Installation Guide (1-Bin Finisher)	DZSM000280	This document

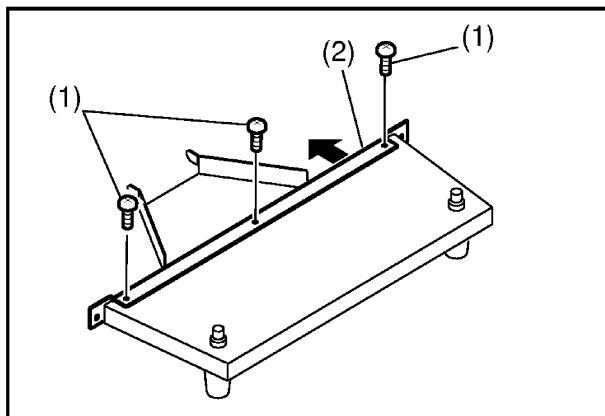
## Installation Kit for 1-Bin Finisher (DA-FS200S)

Qty.	Description	Part No.	Remarks
1	Finisher Harness	DZFP000856	
1	LVPS Option Assembly	DZHP003763	For countries using 100V Power Supply.
		DZHP003866	For countries using 200V Power Supply.
1	LVPS-OP Harness	DZFP000848	For countries using 100V Power Supply.
		DZFP000945	For countries using 200V Power Supply.
1	Finisher Protective Bracket	DZMA002395	
2	Finisher Bracket	DZJB000160	
1	Harness Clamp	DZJK000006	
1	Stablizer	DZJA000776	
1	Stablizer Bracket	DZJA000777	
2	Adjuster	DZMM000022	
2	Cap	DZMD000029	
3	Screw	DZPD000006	4x10, Silver
4	Screw	XTB3+8J	3x8, Gold
4	Screw	DZPB000007	3x8, Silver

## 9.25.2. Installation

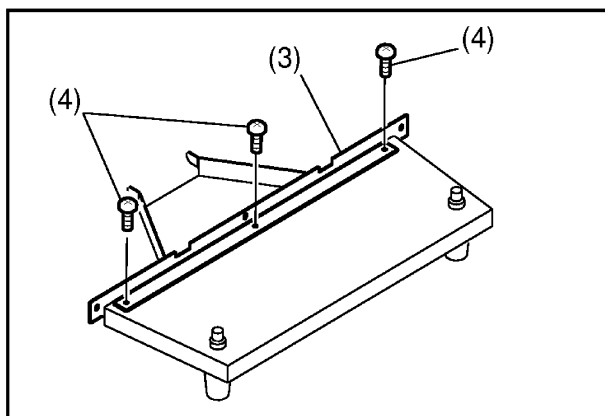
### Note:

1. Make sure that the Paper Transport Unit (DA-FK210), the Dual-Path Exit Guide Unit (DA-FK200), the 2nd/3rd/4th Paper Feed Module (DA-DS200/205/210/215), the stand for 1/2/3/4-Paper Tray Configuration (DA-DA200/210/220/230) and the Electronic Sorting Board (DA-ES200) have already been installed.
2. Electronic Sorting Board is for the DP-2000 only.
3. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.

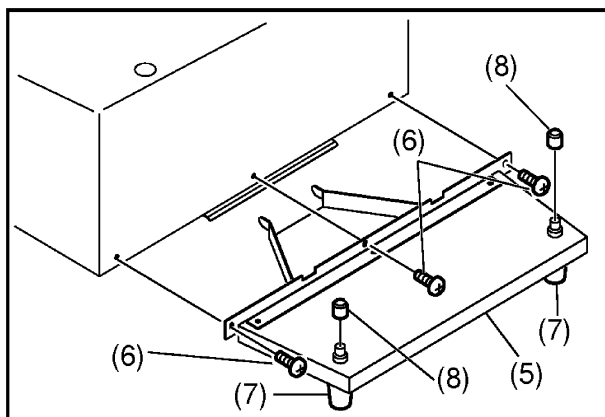


### <Installing the Stabilizer for the Stand with 2/3-Paper Tray Configurations>

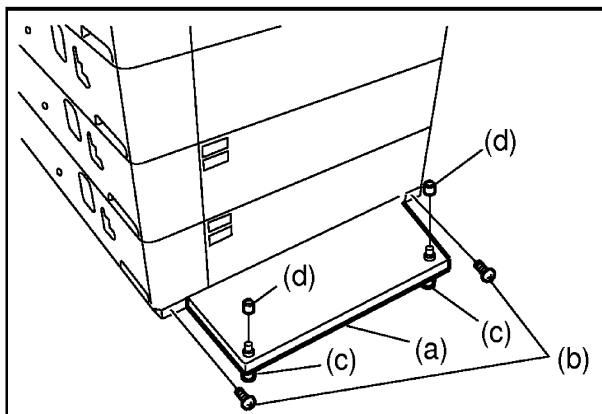
- (1) Remove 3 Screws. (4x10, Silver)
- (2) Remove the Stabilizer Bracket.



- (3) Reverse the Stabilizer Bracket and re-install to the Stabilizer.
- (4) Secure the Stabilizer Bracket with 3 Screws.

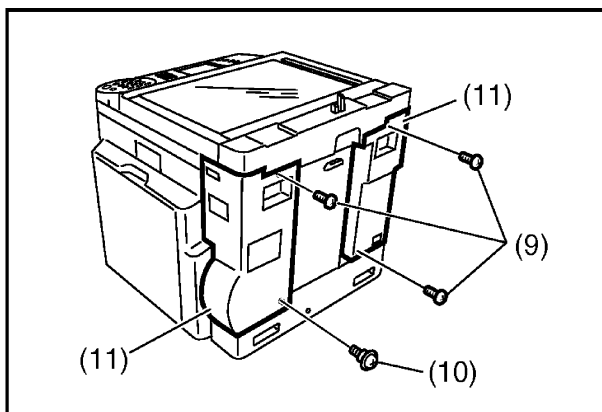


- (5) Install the Stabilizer.
- (6) Secure the Stabilizer with 3 Screws. (4x10, Silver)
- (7) Set the Stabilizer Height with the 2 Adjusters.
- (8) Install 2 Caps.

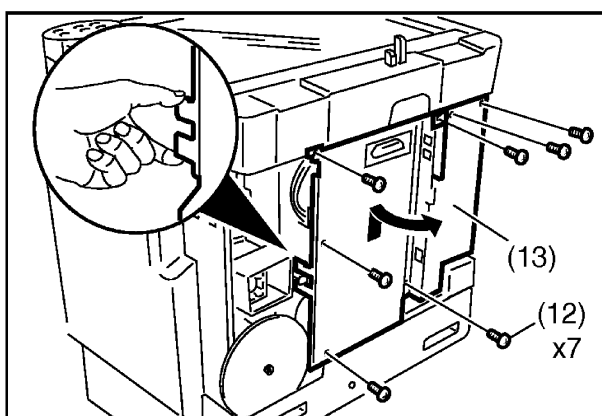


### <Installing the Stabilizer for the Stand for 4-Paper Tray Configuration>

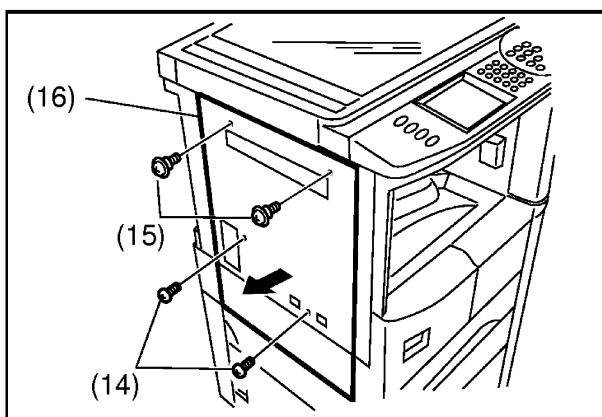
- (a) Install the Stabilizer.
- (b) Secure the Stabilizer with 2 Screws. (4x10, Silver)
- (c) Set the Stabilizer Height with the 2 Adjusters.
- (d) Install 2 Caps.



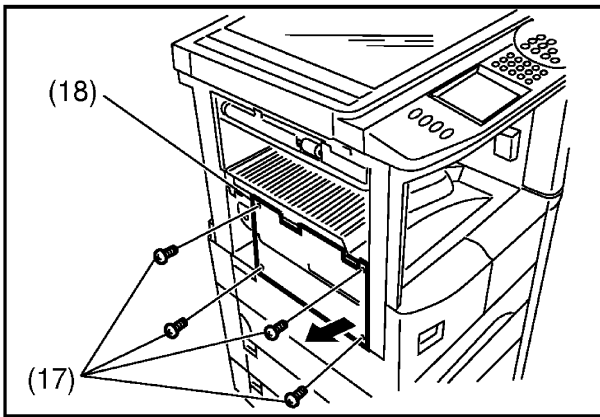
- (9) Remove 3 Screws (Silver).
- (10) Remove 1 Shoulder Screw (Silver).
- (11) Remove the Left Rear Cover and Right Rear Cover.



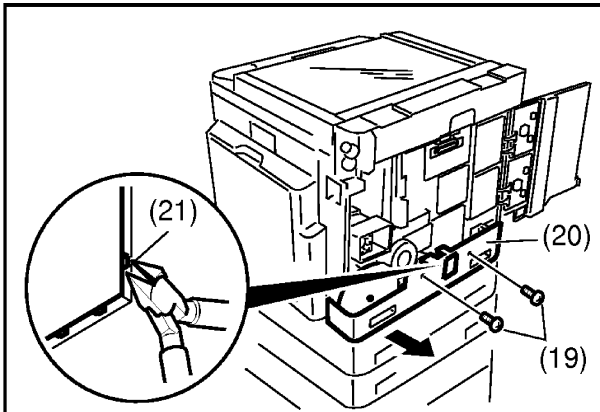
- (12) Remove 7 Screws.
- (13) Open the Rear Plate as illustrated on the left.



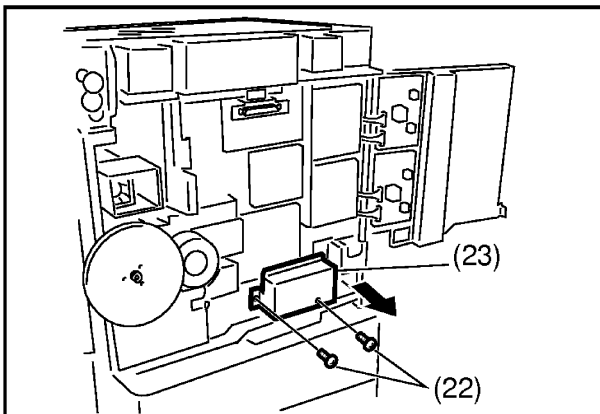
- (14) Remove 2 Screws (Silver).
- (15) Remove 2 Shoulder Screws (Silver).
- (16) Remove the Left Side Cover.



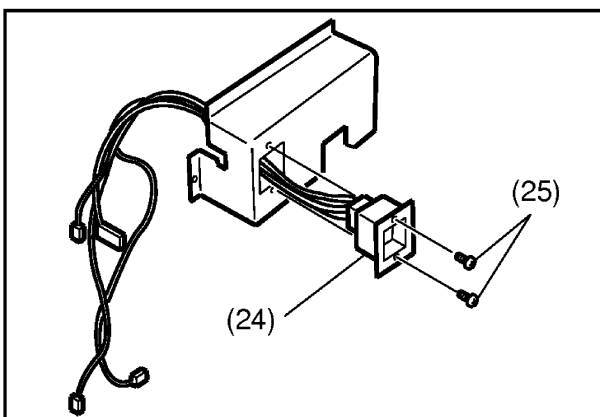
- (17) Remove 4 Screws.
- (18) Remove the LVPS Plate.



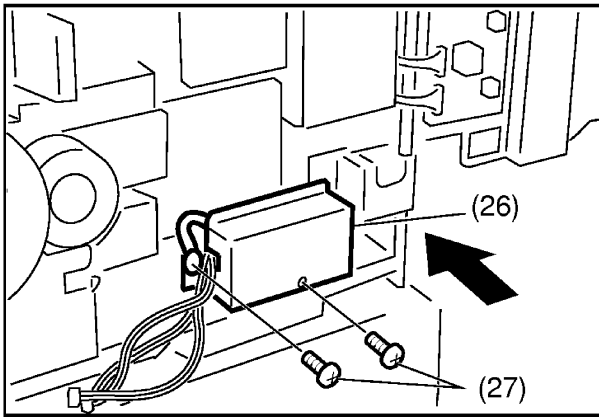
- (19) Remove 2 Screws (Silver).
- Note:**  
The number of screws may vary on units produced prior to Dec. 2000.
- (20) Remove the Lower Rear Cover.
- (21) Break off the protective tab on the Lower Rear Cover. (The Larger tab)



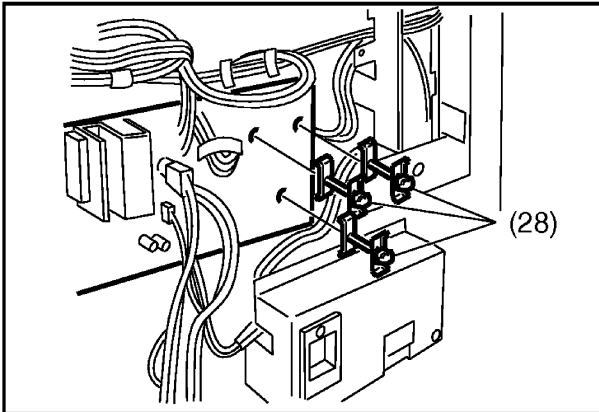
- (22) Remove 2 Screws.
- (23) Remove the HF Bracket.



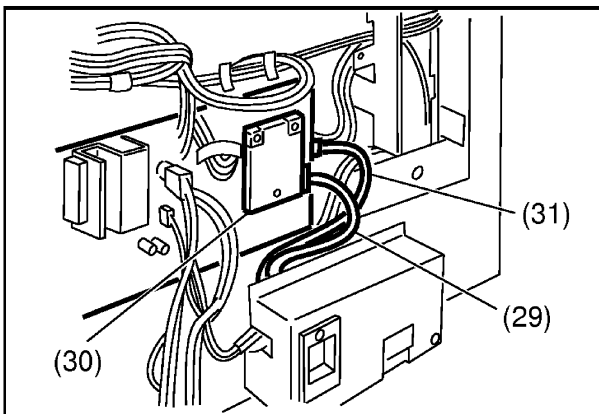
- (24) Put the Finisher Harness with connector through the opening on the HF Bracket.
- (25) Secure the Finisher Harness with 2 Screws. (3x8, Silver)



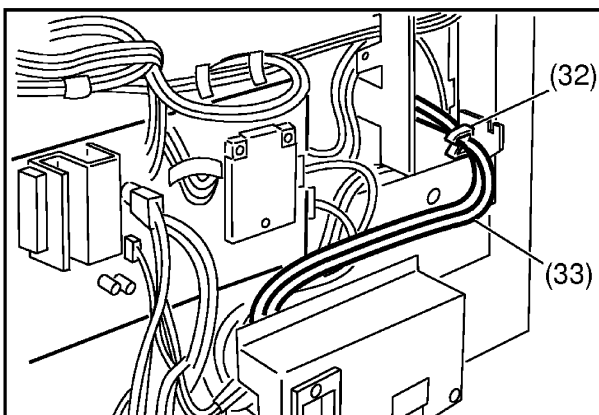
- (26) Re-install the HF Bracket.
- (27) Secure the HF Bracket together with the Ground Strap of the Finisher Harness with 2 Screws.



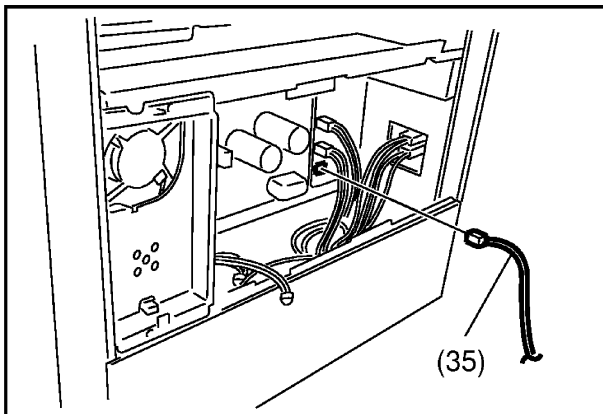
- (28) Install 3 Spacers on the LPC PC Board.



- (29) Connect the Finisher Harness Connector to the IPC Interface Board.
- (30) Install the IPC Interface Board on the LPC PC Board.
- (31) Connect the Finisher Harness Connector to CN731 on the LPC PC Board.

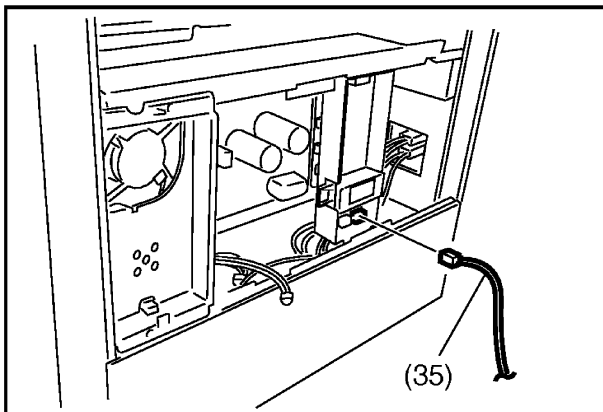


- (32) Install the Harness Clamp.
- (33) Place the Finisher Harness into the Harness Clamp.
- (34) Close and secure the Rear Plate.



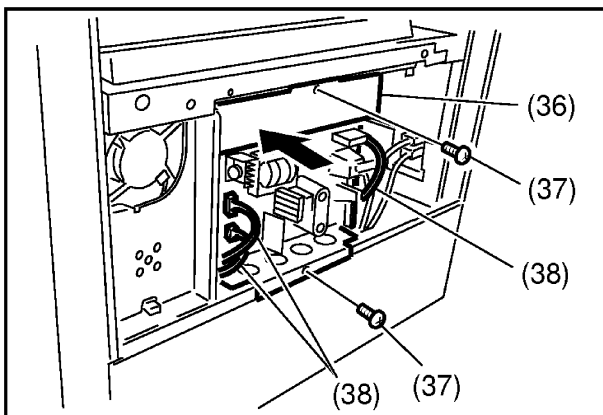
**<For Countries Using 100V Power Supply>**

(35) Connect the LVPS Option Harness to the HTC PC Board.



**<For Countries Using 200V Power Supply>**

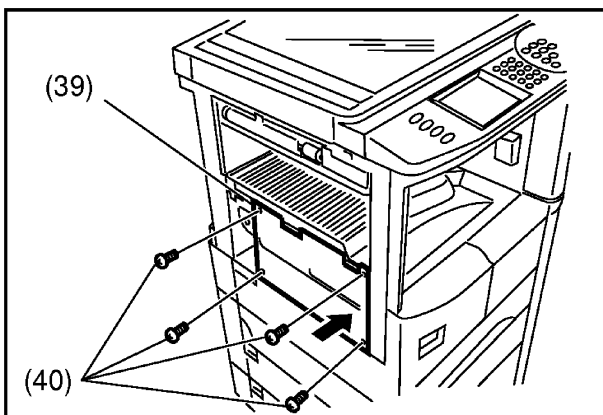
(35) Connect the LVPS Option Harness to the HCE PC Board.



(36) Install the LVPS Option Assembly.

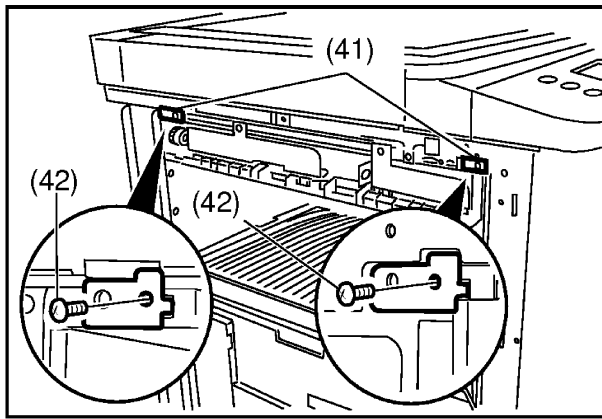
(37) Secure the LVPS Option Assembly with 2 Screws. (3x8, Gold)

(38) Connect 3 Connectors to the LVPS Option Assembly as shown.

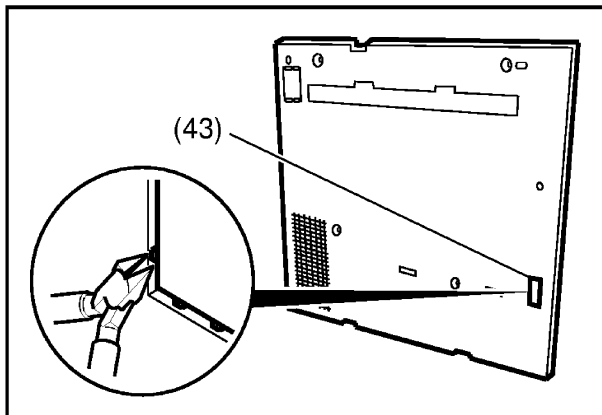


(39) Install the LVPS Plate.

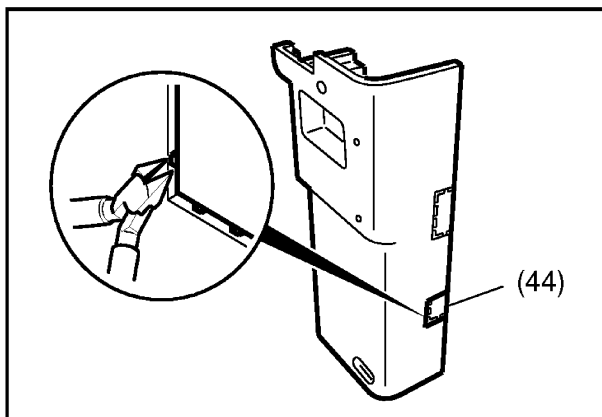
(40) Secure the LVPS Plate with 4 Screws.



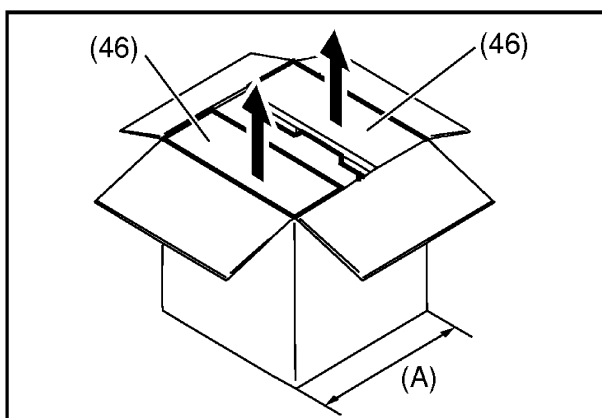
- (41) Install 2 FIN Brackets.
- (42) Secure 2 FIN Brackets with 2 Screws. (3x8, Gold)



- (43) Break off the protective tab on the Left Side Cover.

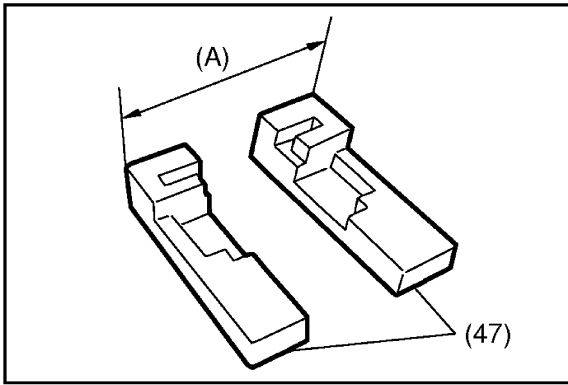


- (44) Break off the protective tab on the Left Rear Cover.
- (45) Re-install all removed covers.



- (46) Take the 2 upper pads out of the finisher box.

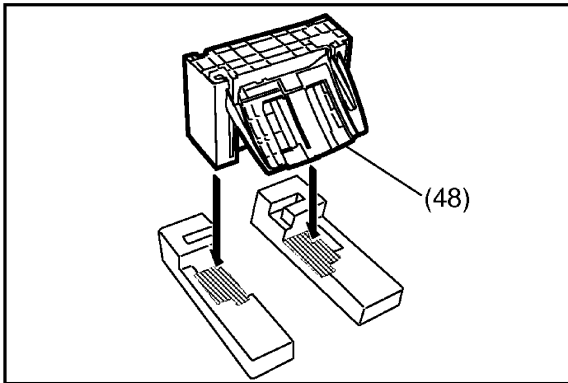




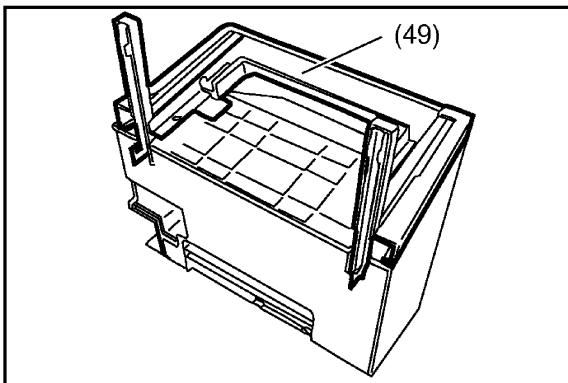
(47) Place the removed pads on the floor as shown on the left.

**Note:**

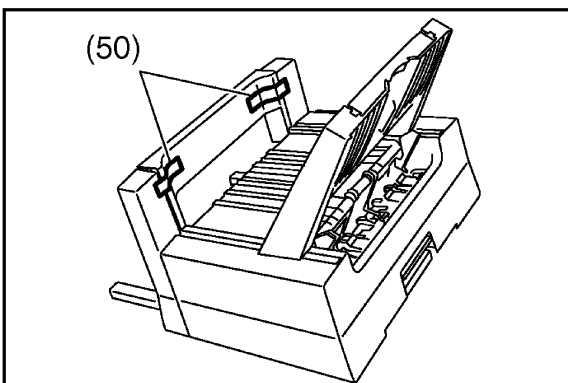
Width (A) should be the same as width (A) of the box in the step (46) above.



(48) Place the finisher upside down onto the hollows of the pads.



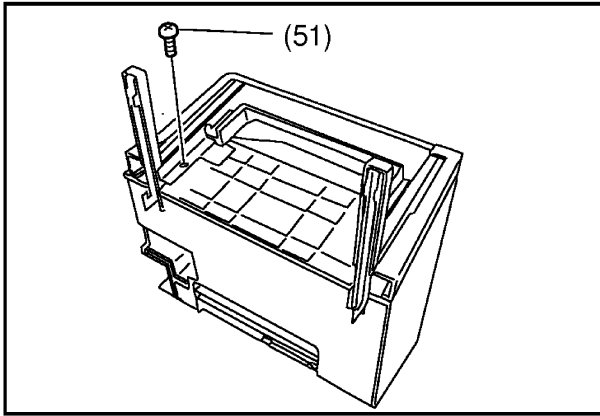
(49) Place the mount on the finisher as shown on the left.



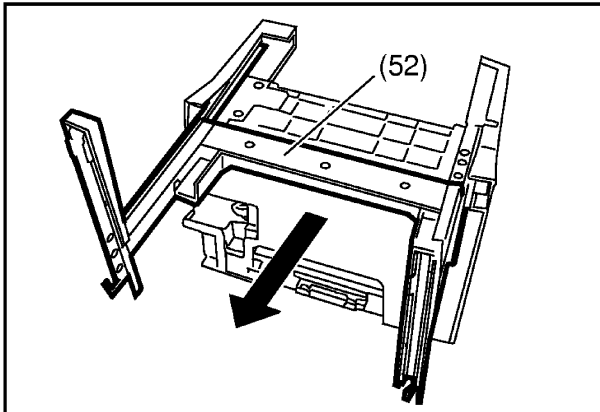
(50) Remove the 2 Packing Tapes.

**Note:**

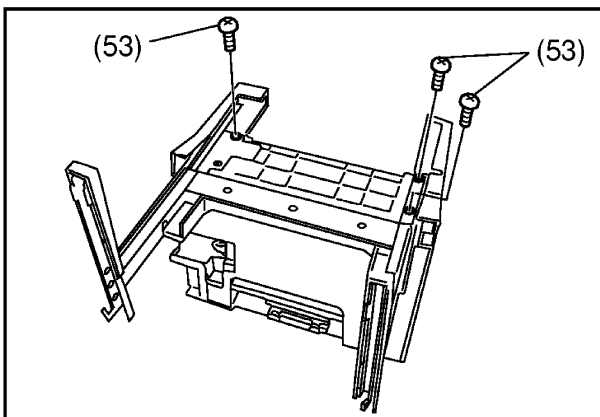
Do Not dispose of the removed packing tapes. They will be re-used in the step (55).



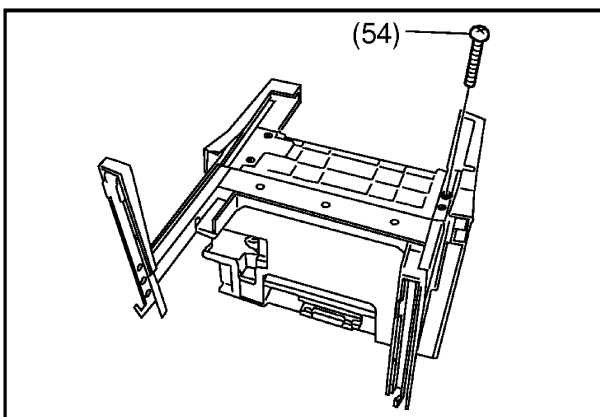
(51) Secure the mount with 1 Screw (4x25, Black)



(52) Extend the mount rail outward.



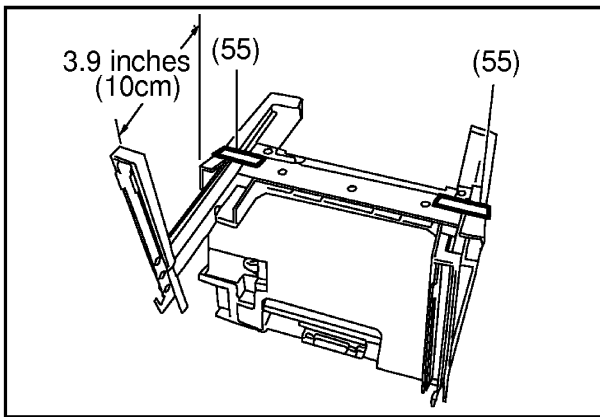
(53) Secure the mount with 3 Screws. (4x25, Black)



(54) Fit and tighten Screw (4x20, Black). Be sure to fully tighten the screw.

**Note:**

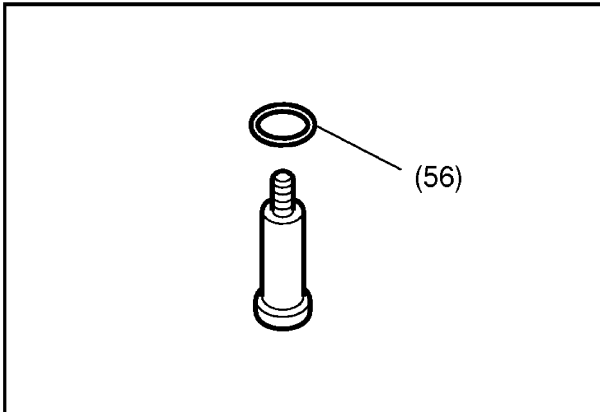
This Screw serves as the lower limit stopper for the stack tray.



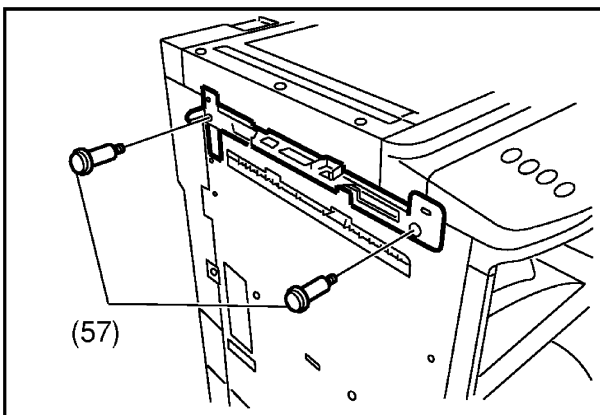
- (55) Move the rail back in about 3.9 inches (10 cm), then secure it with two pieces of tape.

**Note:**

You may use the tapes that was initially used to keep the parts together in the shipping box.



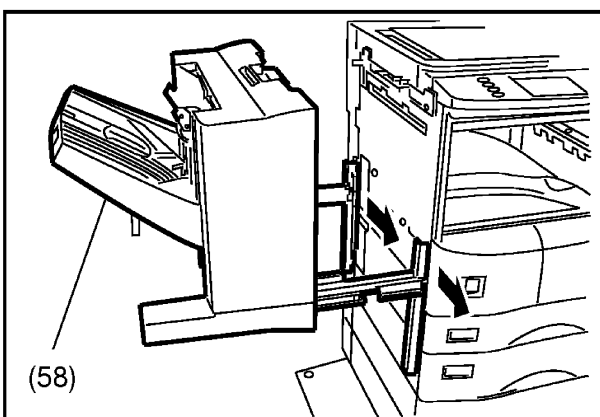
- (56) Install 1 Washer on each of the 2 Screws.



- (57) Secure the Latch Catcher to the machine with 2 screws.

**Note:**

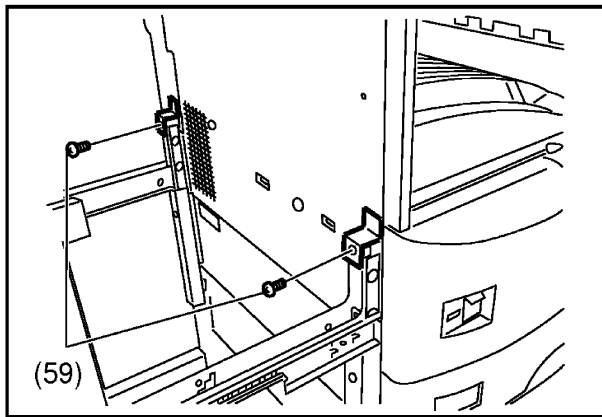
Do not tighten the screws at an angle.



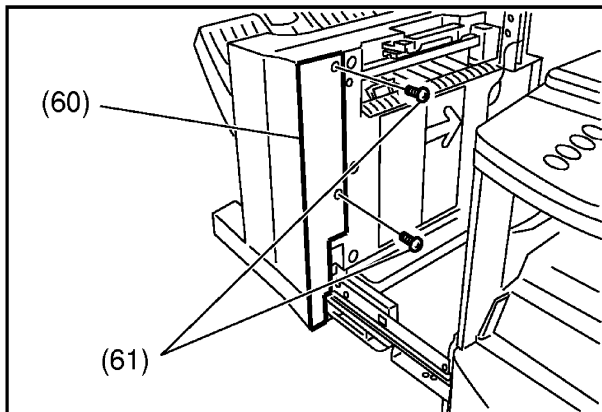
- (58) Lift the finisher and hitch its hooks to the mounting slots where the protective tabs of the Left Side Cover and the Left Rear Cover were removed in step (43) and (44).

**Note:**

Shift the hooks toward you as much as possible so that the kit fixing claws can be easily inserted in the step (59) below.



- (59) Secure the 2 Kit Fixing Claws to the holes with 1 Screw each. (4x6, Silver)

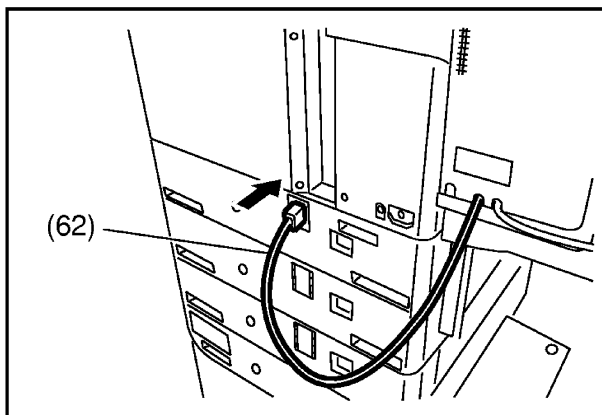


- (60) Install the FIN Protective Bracket.

**Note:**

Hitch the bottom hook of the FIN Protective Bracket first and then to the upper 2 hooks.

- (61) Secure the FIN Protective Bracket with 2 Screws. (3x8, Silver)



- (62) Connect the Finisher Connector as shown on the left.

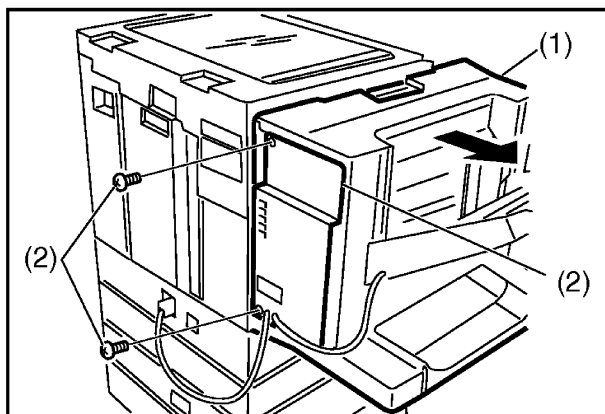
- (63) Replace the EP-ROM.  
(For DA-FS200-PUA only)

**Note:**

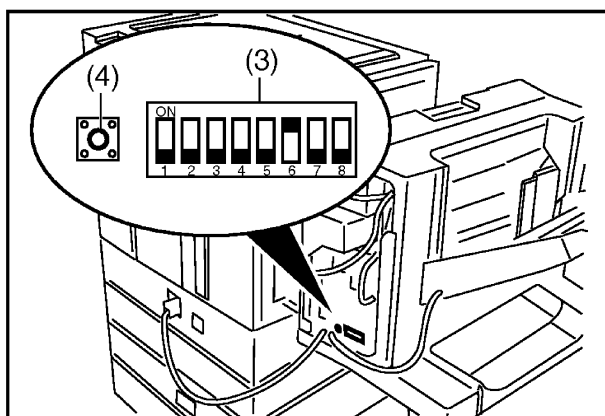
Refer to the instructions (DZSM000435-0) for Replacing the EP-ROM. (See Sect. 9.26.)

### 9.25.3. Repacking

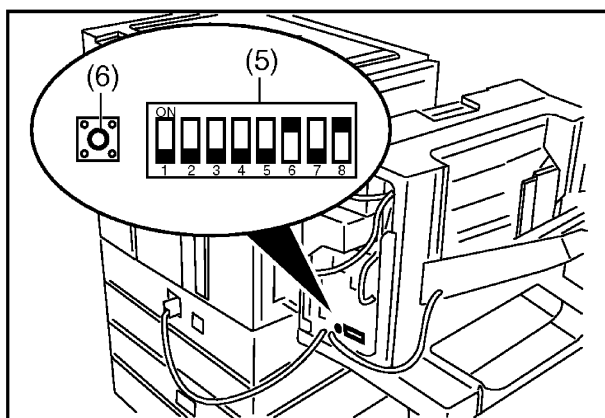
Before repacking the Finisher into its original carton, please follow the procedure below.



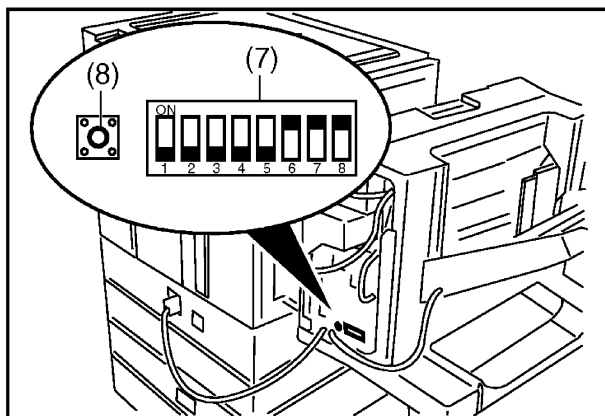
- (1) Open the Finisher.
- (2) Remove 2 Screws and the Cover.



- (3) Place the Front Aligning Guide to its home position by setting the DIP Switch (SW1) as shown on the left.
- (4) Press the Push Button Switch (SW2), the Front Aligning Guide moves to its home position and halts.



- (5) Place the Rear Aligning Guide to its home position by setting the DIP Switch (SW1) as shown on the left.
- (6) Press the Push Button Switch (SW2), the Rear Aligning Guide moves to its home position and halts.



- (7) Place the Stack Tray to its lower position by setting the DIP Switch (SW1) as shown on the left.
- (8) Press the Push Button Switch (SW2), the Stack Tray moves to its lower position and halts.
- (9) Repack the Finisher following the Installation Procedure in the reverse order.

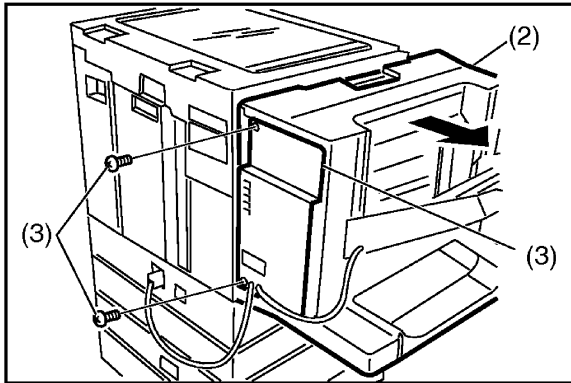
## 9.26. Replacing the EP-ROM on the 1-Bin Finisher (DA-FS200-PUA)

The 1-Bin Finisher is configured for the DP-2000/2500 copiers. If you are installing this Finisher on the DP-3000 copier, replace the EP-ROM (4F1-1315) with the enclosed EP-ROM (4F1-2027) to accommodate the faster speed of the DP-3000.

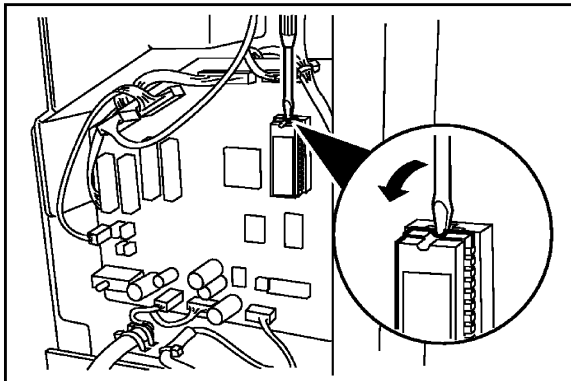
### 9.26.1. Replacing the EP-ROM

**Note:**

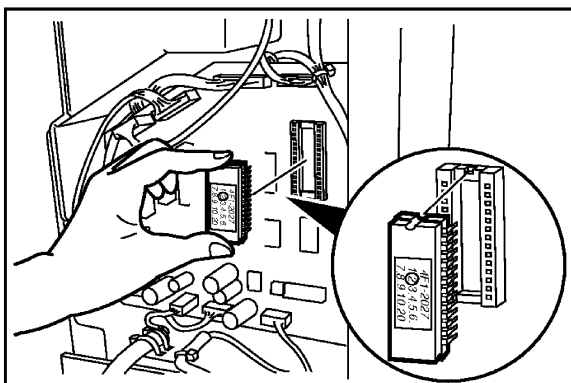
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning the EP-ROM replacement.



- (1) Follow the Steps 1 to 63 of the Installation Instructions for DA-FS200.
- (2) Open the Finisher.
- (3) Remove 2 Screws and the Cover.



- (4) Remove the EP-ROM (4F1-1315 for the DP-2000/2500) on the Finisher Controller PCB using a screwdriver.



- (5) Re-install the EP-ROM (4F1-2027 for the DP-3000) that was enclosed in the cavity of the upper styrofoam Cushion Assembly.

**Note:**

Align the EP-ROM notch as shown on the left and carefully insert it all the way into the socket.

- (6) Re-install the Cover and close the Finisher.

## 9.27. Installing the Dehumidifier Heater Kit

### 9.27.1. Contents

Qty.	Description	Part No.	Remarks
1	Heater Assembly (w/ Ferrite Core)	DZFR000027	For the CCD
2	Heater Assembly	DZFR000013	
2	Heater Bracket	DZJC000287	For the Scanner
1	Heater 3 Bracket	FFPKD07791	For the LSU
5	Screw	XTB3+8J	
6	Harness Clamp	DZJK000006	
1	RLB PC Board Assembly	See Note	
1	Heater 1 Harness	See Note	Dual Harness
1	Heater 2 Harness	DZFP000896	Longer with a Black connector
1	Heater 3 Harness	DZFP000920	Shorter with a Black connector
1	RLB-Power Harness	DZFP000914	
1	RLB-SC Harness	See Note	
1	Power Label	DZNK003080	
1	Switch Blind Label	DZNK003082	
1	Installation Guide	DZSM000321	This document

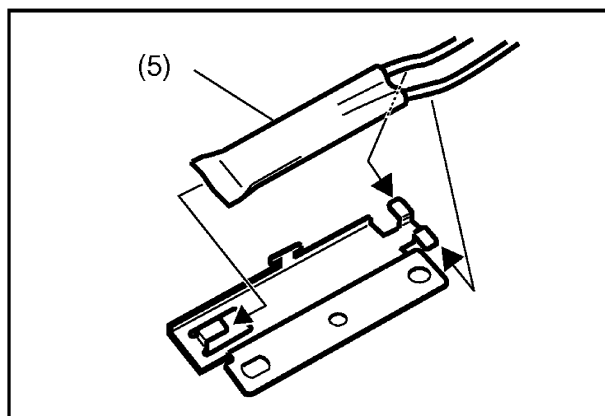
**Note:**

The part number differs depending on the country. Refer to the Parts List in the Service Manual.

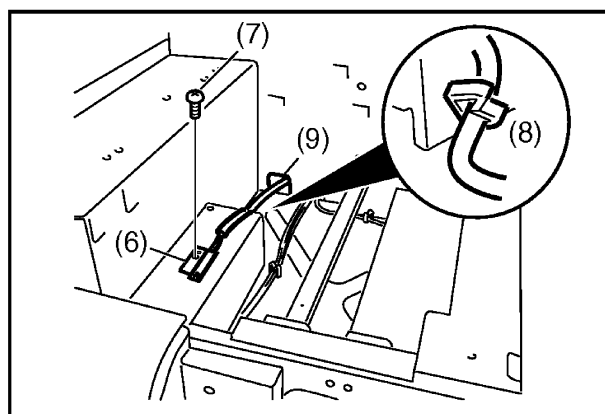
### 9.27.2. Installation

**Note:**

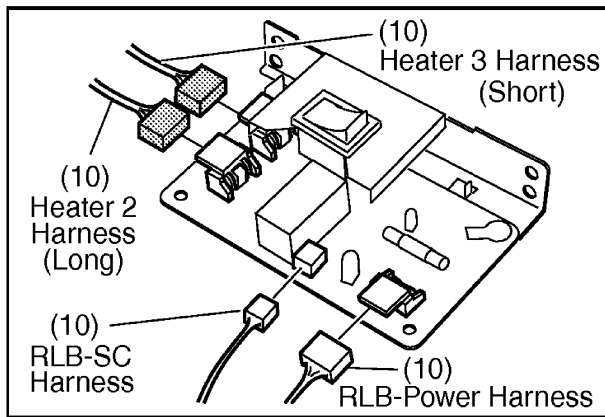
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



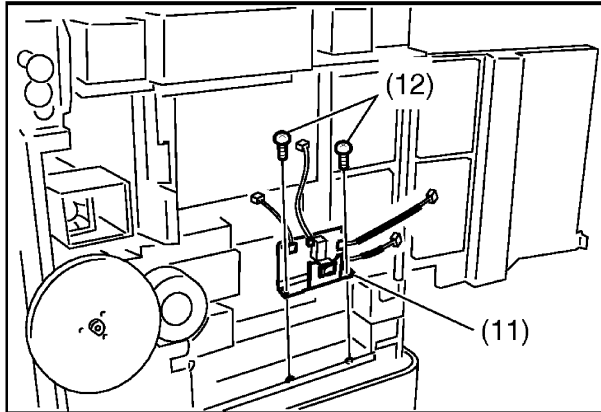
- (1) Remove the Platen Glass Assembly and Scanner Glass. (Refer to Ch. 2.2.6.).
- (2) Open the Rear Plate and remove the HF Bracket. (Refer to Ch. 2.2.4.)
- (3) Remove the LSU. (Refer to Ch. 2.2.4.)
- (4) Remove the Left Side Cover. (Refer to Ch. 2.2.2.)
- (5) Position the Heater Assembly to the Dehumidifier Brackets as shown.



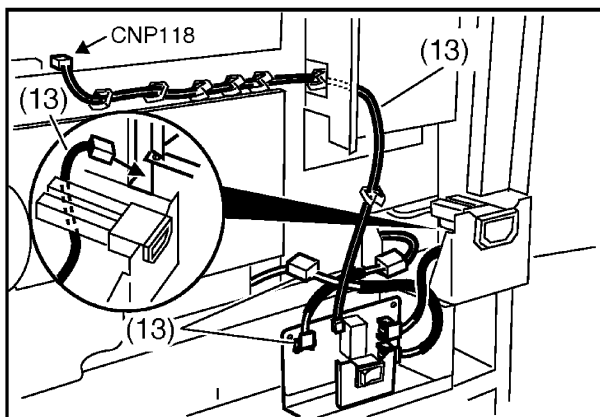
- (6) Install the Heater Assembly.
- (7) Secure the Heater Assembly with 1 Screw.
- (8) Install the Harness Clamp into the mounting hole on the HTC Cover and place the Harness of the Heater Assembly into the clamp.
- (9) Feed the Harness of the Heater Assembly to the rear side of the machine through the access hole as shown on the left.



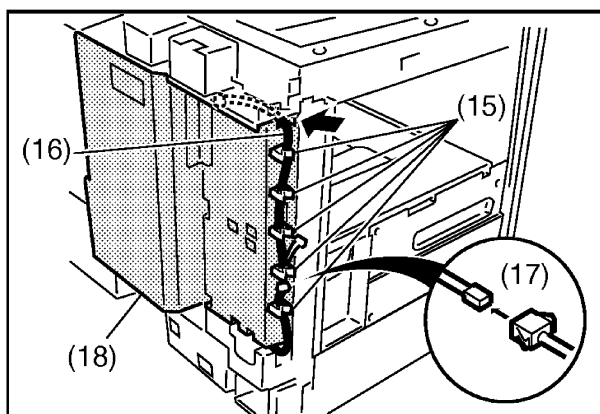
- (10) Connect 4 Harnesses to the RLB PC Board Assembly as illustrated on the left.
- CN171 : RLB-Power Harness
  - CN175 : RLB-SC Harness
  - CN172 : Heater 3 Harness (Scanner)
  - CN173 : Heater 2 Harness (LSU)



- (11) Install the RLB PC Board Assembly.  
 (12) Secure the RLB PC Board Assembly with 2 Screws.

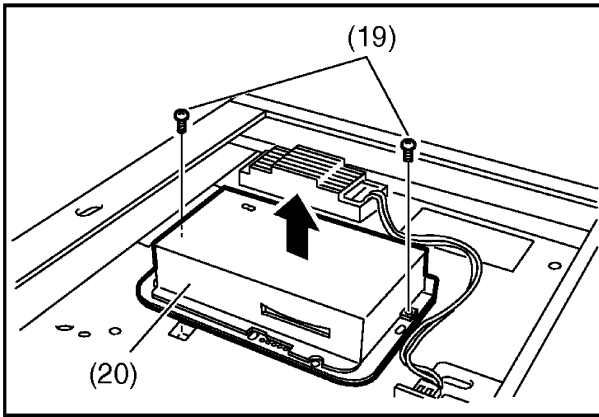


- (13) Route and connect the 4 Harnesses of the RLB PC Board Assembly as shown on the left and place the RLB Harness into the 7 clamps.  
 (14) Close the Rear Plate.



- (15) Install the 5 Harness Clamps on the Rear Plate as shown on the left.  
 (16) Place the Heater 1 Harness into the 5 clamps and put it to the inside of the frame through the hole in the direction of the arrow.  
 (17) Connect the Heater 2 Harness of the RLB PC Board Assembly and the Heater 1 Harness.  
 (18) Open the Rear Plate.



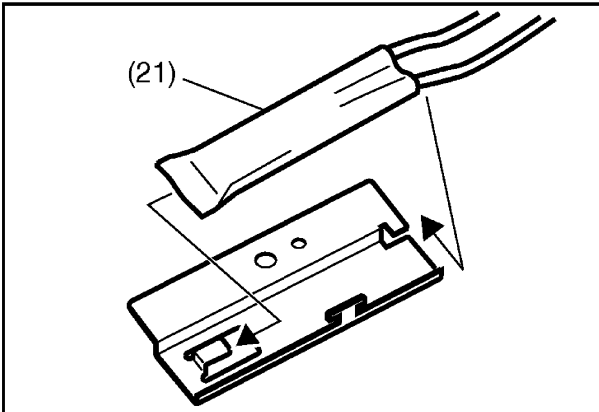


(19) Remove 2 Screws. (Gold)

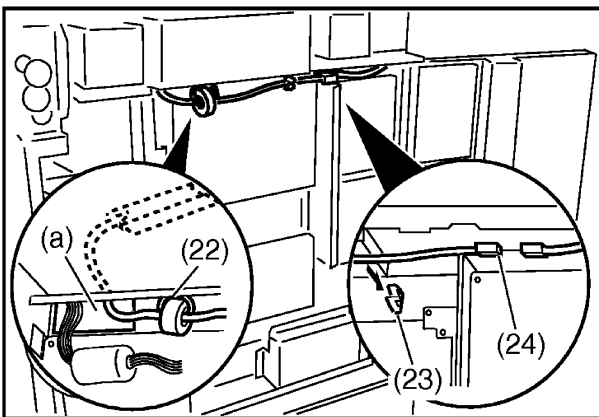
**Note:**

Do not remove the Red Screws.

(20) Remove the CCD Cover.



(21) Position the Heater Assembly (with the Ferrite Core) to the Heater Bracket as shown.

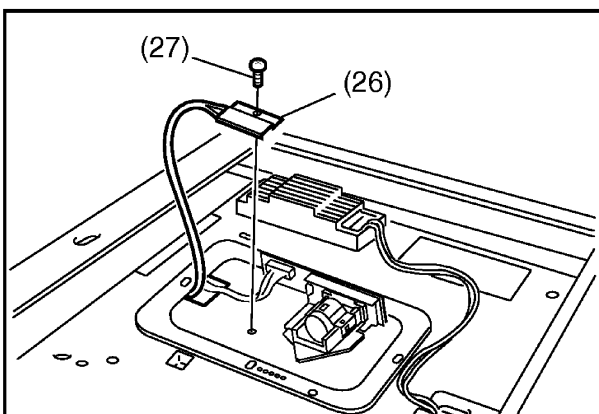


(22) Place the Heater Assembly to the inside of the Base Frame through the hole (a) as shown on the left.

(23) Place the RLB Harness into the clamp above the SC PC Board.

(24) Connect the Harness of the Heater Assembly and the Heater 1 Harness installed in step (16).

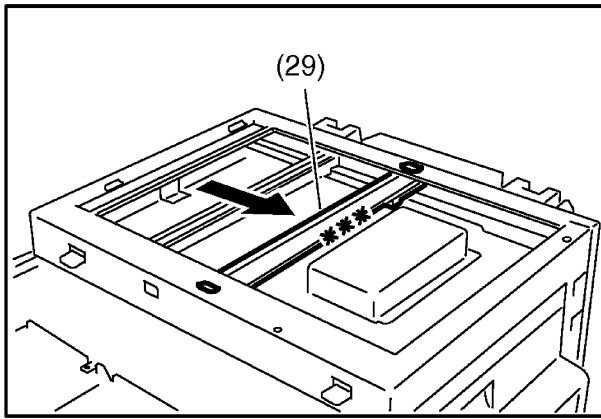
(25) Close the Rear Plate.



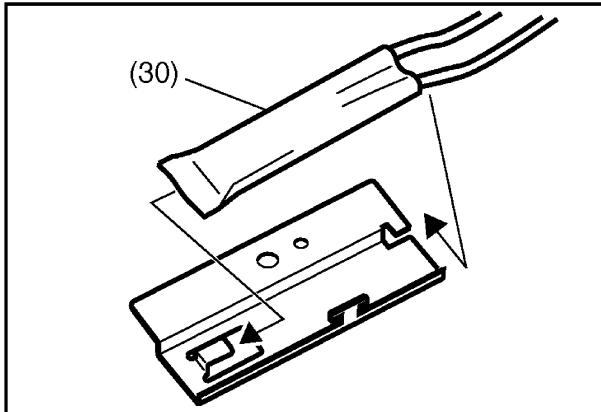
(26) Install the Heater Assembly onto the CCD Plate.

(27) Secure the Heater Assembly with 1 Screw.

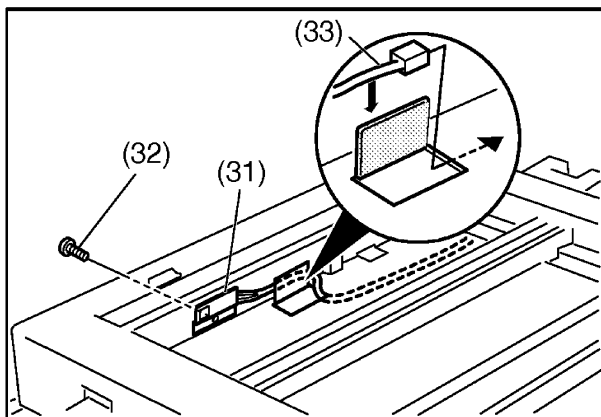
(28) Re-install the CCD Cover.



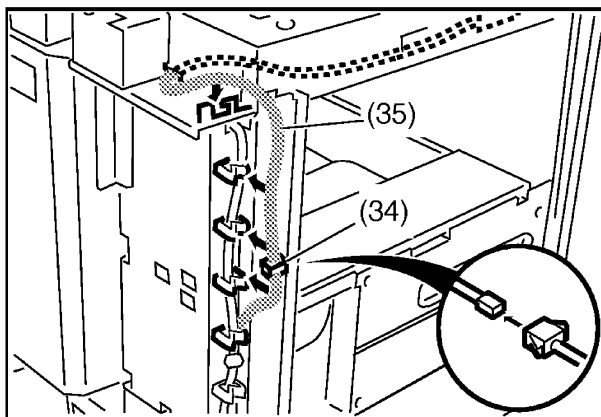
(29) Move the Lamp Base Unit slowly toward the right, holding the bracket near the center (Marked by \*\*\* as shown on the left).



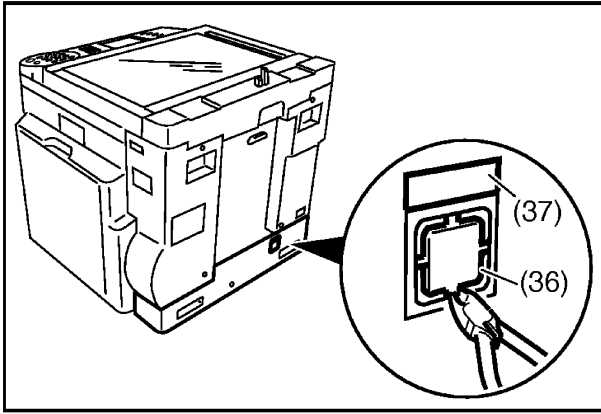
(30) Position the Heater Assembly to the Heater Bracket as shown.



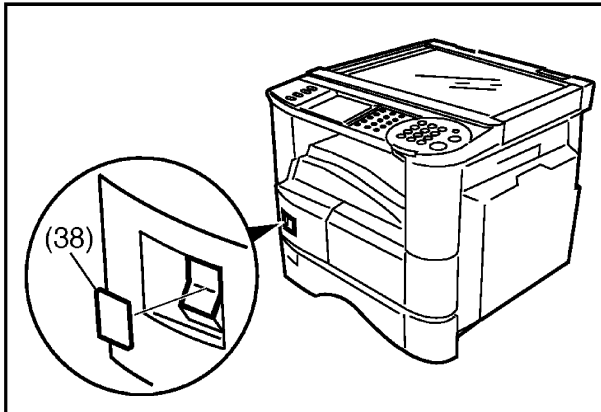
(31) Install the Heater Assembly to the Base Frame as illustrated on the left.  
 (32) Secure the Heater Assembly from the outside of the Base Frame with 1 Screw.  
 (33) Put the Harness of the Heater Assembly behind the plate and into the hole on the Base Frame as shown on the left.



(34) Connect the Harness of the Heater Assembly and the Heater 1 Harness.  
 (35) Place the Harness of the Heater Assembly into the clamps and through the notch as shown on the left.



- (36) Break off the protective tab on the Lower Rear Cover.
- (37) Paste the Power Label on the Lower Rear Cover.



- (38) Paste the Switch Blind Label over the Main Power Switch as shown on the left.
- (39) Re-install the remaining covers and other parts, and then turn the Power Switch of the RLB PC Board Assembly to the ON position.

## 9.28. Installing the Key Counter Cable Kit (DA-KH200)

### 9.28.1. Contents

**Note:**

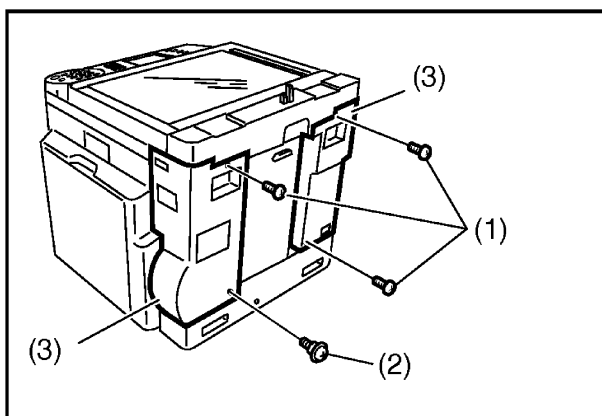
The Key Counter is sold separately.

Qty.	Description	Part No.	Remarks
1	KEY Harness	DZFP000928	Longer
1	KC Harness	FFPWC0392	Shorter
1	KC Bracket	DZJA000786	
2	Screw	DZPA000063	
1	Installation Guide	DZSM000279	This document

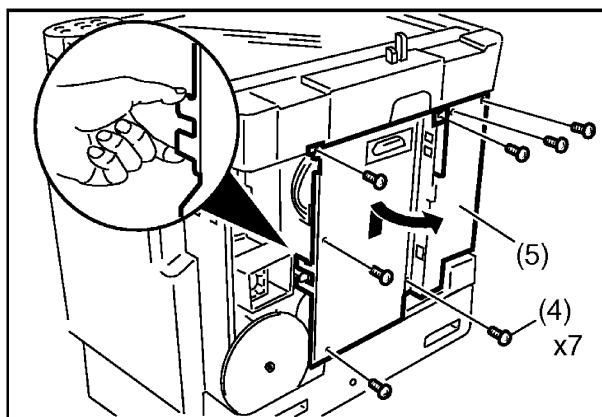
### 9.28.2. Installation

**Note:**

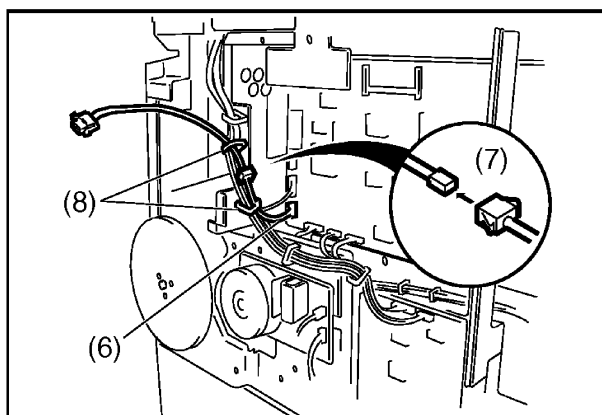
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



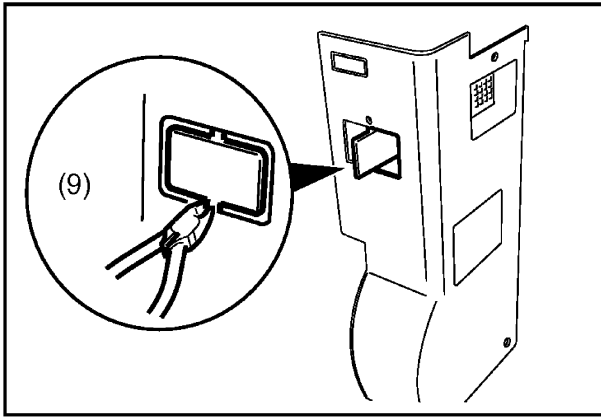
- (1) Remove 3 Screws (Silver).
- (2) Remove 1 Shoulder Screw (Silver).
- (3) Remove the Left Rear Cover and Right Rear Cover.



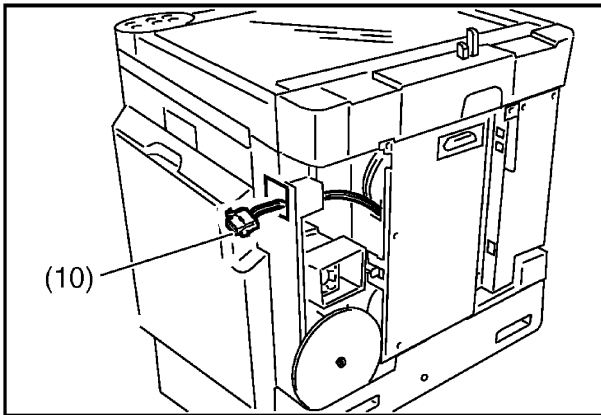
- (4) Remove 7 Screws.
- (5) Open the Rear Plate as illustrated on the left.



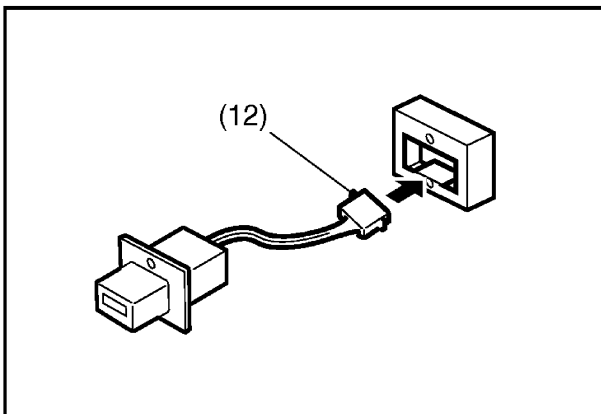
- (6) Connect the KEY Harness to CN102 on the SC PC Board.
- (7) Connect the KEY Harness and KC Harness.
- (8) Place the Harness into the 2 clamps.



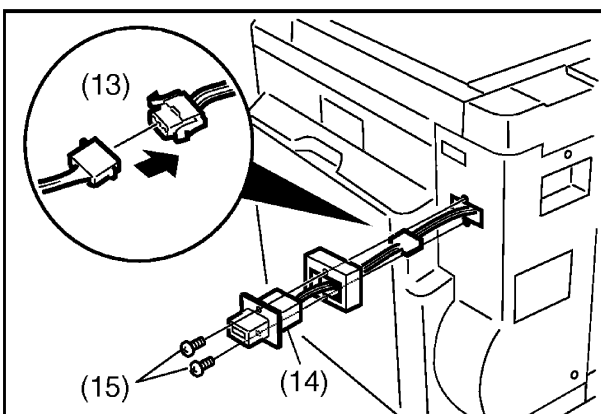
- (9) Break off the protective tab on the Right Rear Cover.



- (10) Insert the KC Harness through the opening of the Right Rear Frame.  
 (11) Close and secure the Rear Plate, and re-install both the Right and Left Rear Covers.

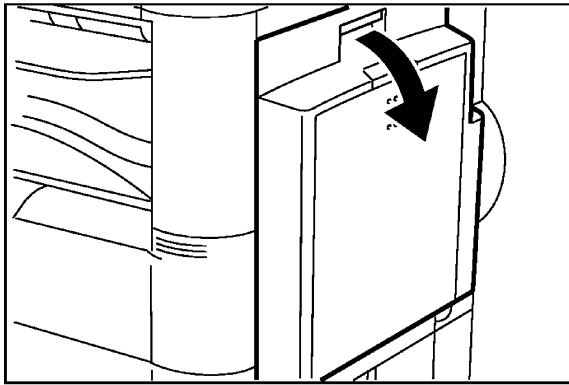


- (12) Place the Harness of Key Counter Socket through the KC Bracket.

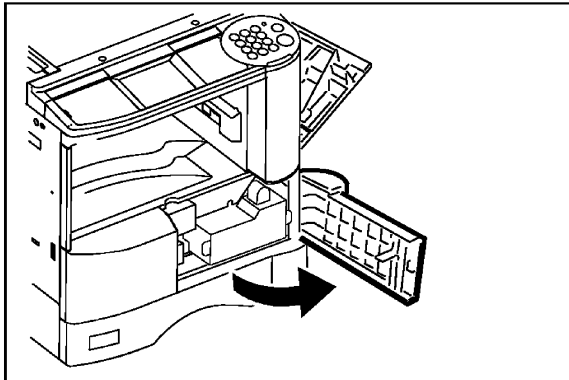


- (13) Connect the Harness of Key Counter Socket and KC Harness.  
 (14) Install the Key Counter into the machine.  
 (15) Secure the KEY Counter with 2 Screws.

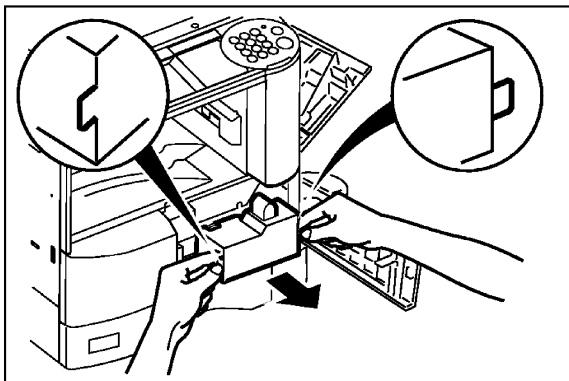
## 9.29. Replacing the OPC Drum



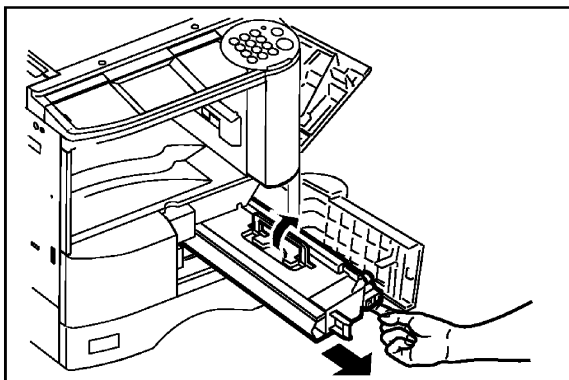
(1) Open the Right Cover.



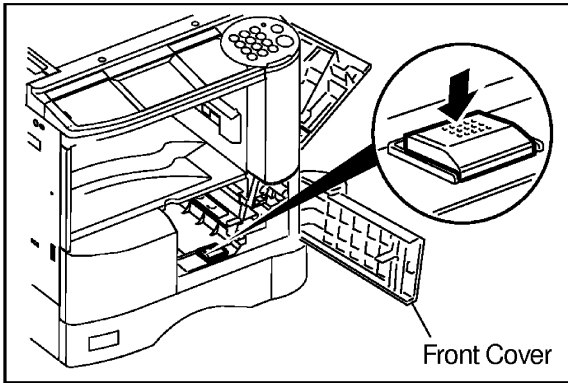
(2) Open the Front Cover.



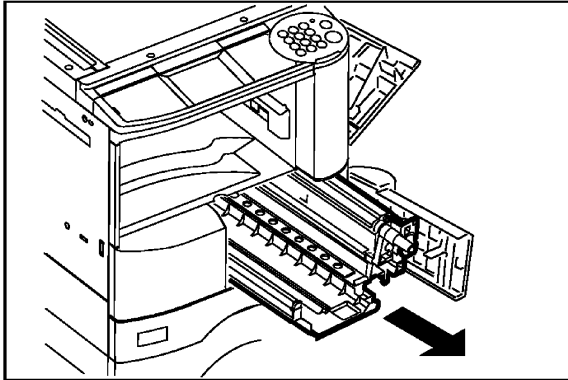
(3) Slowly pull the Waste Toner Box straight out.



(4) Pull on the Green release latch to remove the Toner Cartridge out of the machine while holding it by the Green handle.



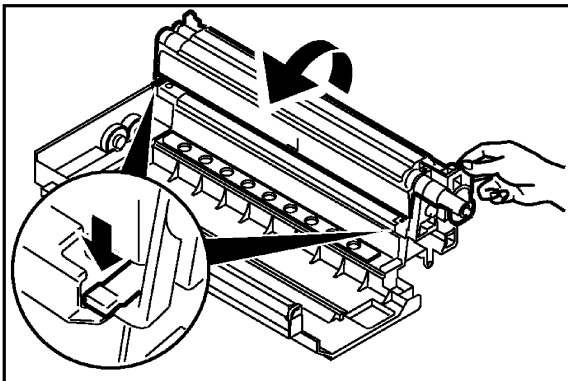
(5) Press down on the Release Latch.



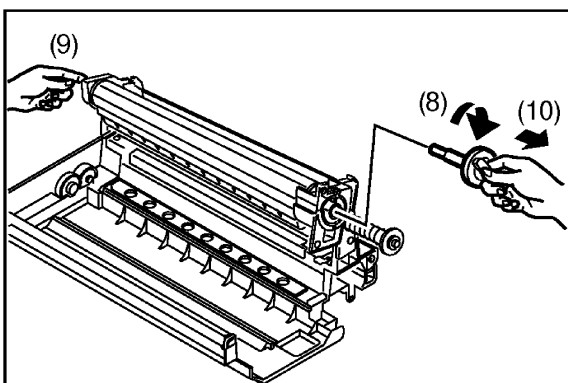
(6) Pull the Process Unit slowly and straight out until it stops.

**Caution:**

Support the Process Unit while pulling it out in case it was not secured with 2 screws during installation.



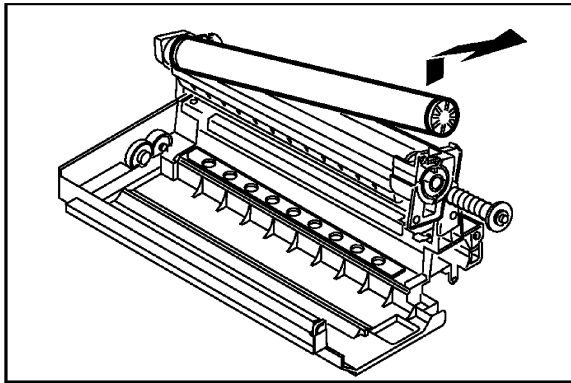
(7) Release 2 OPC Drum Latches and turn the OPC Drum Assembly in the direction of the arrow.



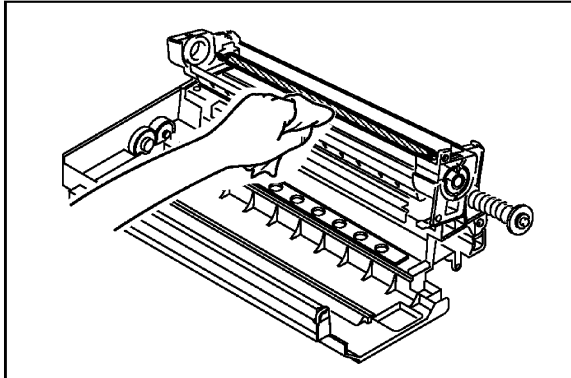
(8) Unlock the OPC Drum Shaft Holder Assembly by turning it clockwise.

(9) Push the OPC Drum forward from the rear end as shown on the left.

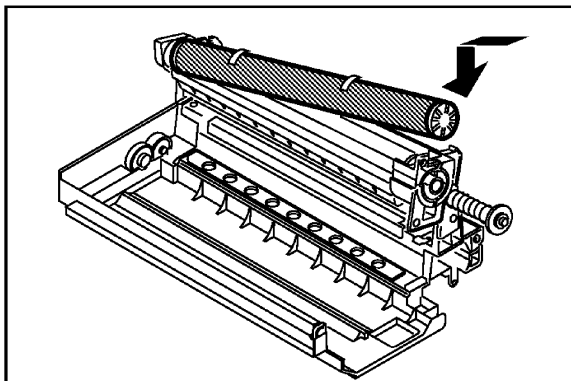
(10) Remove the OPC Drum Shaft Holder.



- (11) Remove the OPC Drum as shown on the left, holding by the front end where the OPC Drum Shaft Holder was installed.



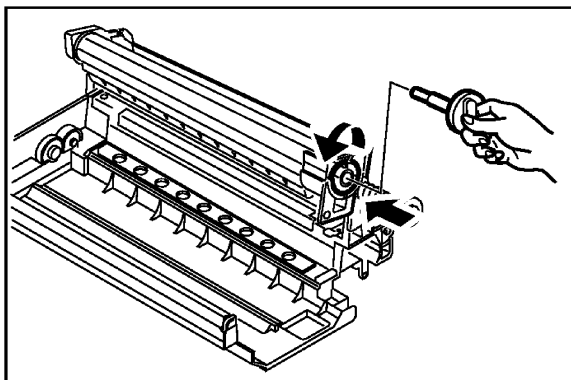
- (12) Clean the Bias Charge Roller with the soft dry cloth that came with the new OPC Drum.



- (13) Install the new OPC Drum in the direction of the arrow.

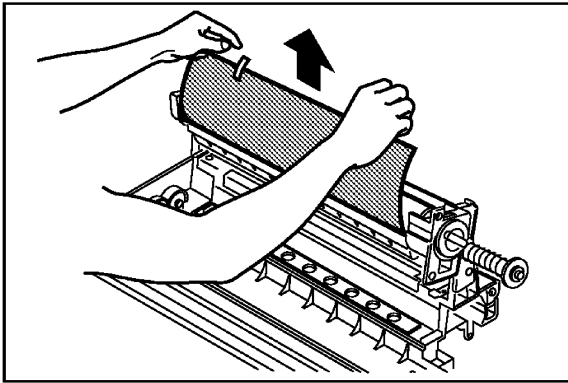
**Note:**

Leave the Protective Film in place.

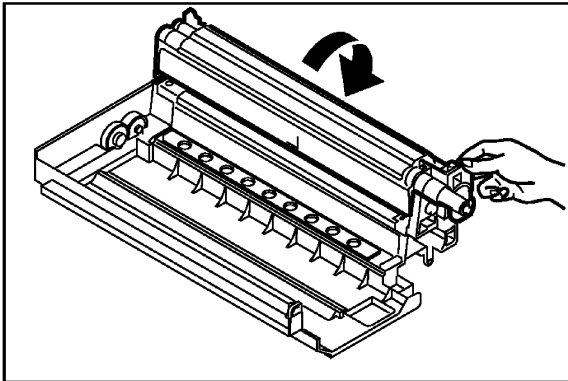


- (14) Reinstall the OPC Drum Shaft Holder and turn it counter-clockwise to lock it in place.





(15) Remove the Protective Film from the OPC Drum.



(16) Turn the OPC Drum Assembly in the direction of the arrow until it locks by the 2 OPC Drum Latches.

(17) Reinstall the Process Unit, Toner Cartridge and the Waste Toner Box by following the instructions in Step 1 to 6 in reverse order.

(18) Clear the Drum Count in the General Functions  
- 09 (Key Operator Mode) - 15 (Clear Drum Count).

# 10 Finisher

## 10.1. Overview

### 10.1.1. Features

1. Compact and light weight
2. Sorting and stapling by shift-sort

Operations of generating sheet stacks, matching, offset stacking, and stapling are performed on a Halfway-processing Tray.

3. Stack Tray loading

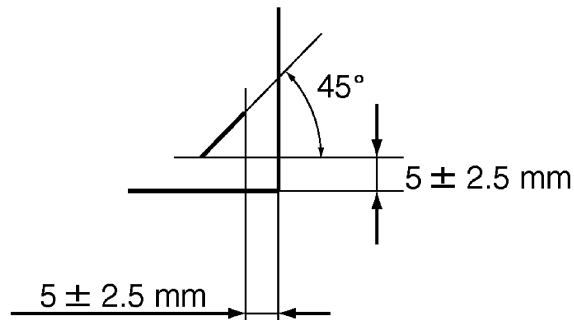
The Stack Tray is capable of holding a maximum of 1000 small-sized sheets, or 500 large-sized sheets. It also holds 30 stapled stacks (a maximum of 30 sheets each).

### 10.1.2. Specifications

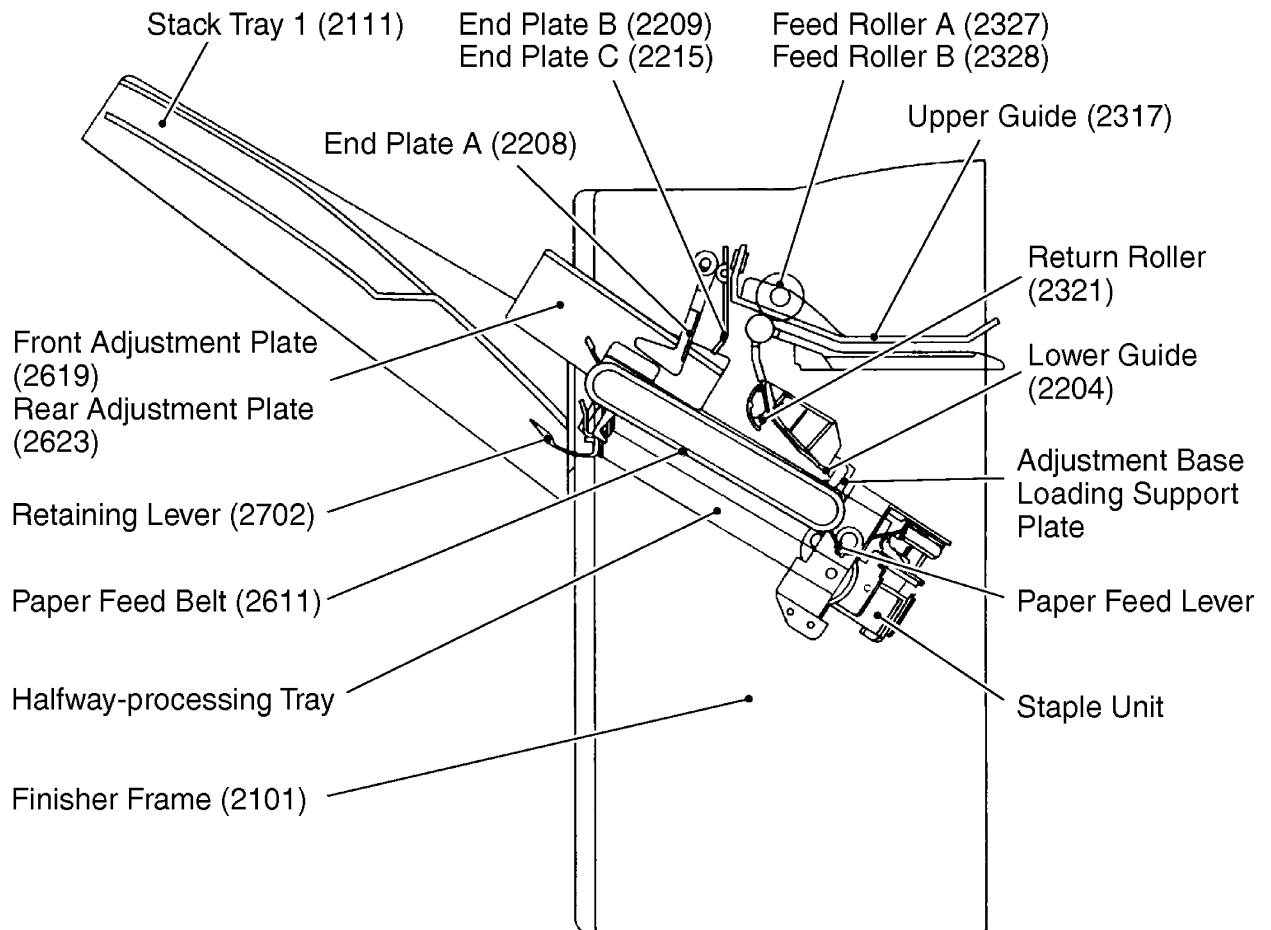
Specification				
Item		Description		
Stacking style		Stack Tray, tray descending/ascending style (fixed Halfway-processing Tray)		
Loading method		Face-down loading		
Copy paper size	Inch-series	LDR, LGL, LTR, LT-R, INV, INV-R, FLS1, FLS2		
	A, B series	A3, A4, A4-R, A5, A5-R, B4, B5, B5-R		
Copy paper weight		0.11 - 0.34 lb/m <sup>2</sup> (50 - 158 g/m <sup>2</sup> )		
Number of bins		1 bin		
Modes		Staple mode		
		Non-staple mode		
		Non-staple shift-sort mode		
Stack Tray capacity	Non-staple	Small-size	1000 sheets	0.17 lb/m <sup>2</sup> (80 g/m <sup>2</sup> ) equivalent
		Middle-size	700 sheets	
		Large-size	500 sheets	
	Staple sort	Small-size *1	30-sheet stacks (maximum 30 stacks)	
		Middle-size *2	20-sheet stacks (maximum 30 stacks)	
		Large-size *3	15-sheet stacks (maximum 30 stacks)	
Aligning width *4	Non-staple	8.3 x 11.7 in (210 - 297 mm)		
	Staple	8.3 x 11.7 in (210 - 297 mm)		
Aligning sheet size	Inch-series	LDR, LGL, LTR, LT-R, INV, INV-R, FLS1, FLS2		
	A, B series	A3, A4, A4-R, A5, A5-R, B4, B5, B5-R		
Stapling sheet size	Inch-series	LDR, LGL, LTR, LT-R, FLS1, FLS2		
	A, B series	A3, A4, A4-R, A5, A5-R, B4, B5, B5-R		
Offset stack allowed width *6		8.3 x 11.7 in (210 - 297 mm)		
Offset width *5		0.79 in (20 mm)		
Stapling method		Hammering by rotary cam		
Stapling position		Rear diagonal stapling (one-point)		

Specification		
Item	Description	
Stapling number of sheets	Small-size	Maximum of 30 sheets
	Middle-size	Maximum of 20 sheets
	Large-size	Maximum of 15 sheets
Staple loading	Special-purpose Cartridge (containing 3000 staples)	
Staples	Special staples	
Staple sensor	Provided	
Manual staples	Not provided	
Sheet Sensor	Provided	
Controller	Not provided (controlled from Main Unit)	
Display	Not provided (operation displayed on Main Unit)	
Dimensions (W x D x H)	17.4 x 22.6 x 16.1 in (442 x 575 x 408 mm)	
Weight	Main unit	: Approx. 26.5 lb (12 kg)
	Mounting kit	: Approx. 6.6 lb (3 kg)
Power supply	24 VDC (supplied by Main Unit)	
Maximum power consumption	40 W or less	

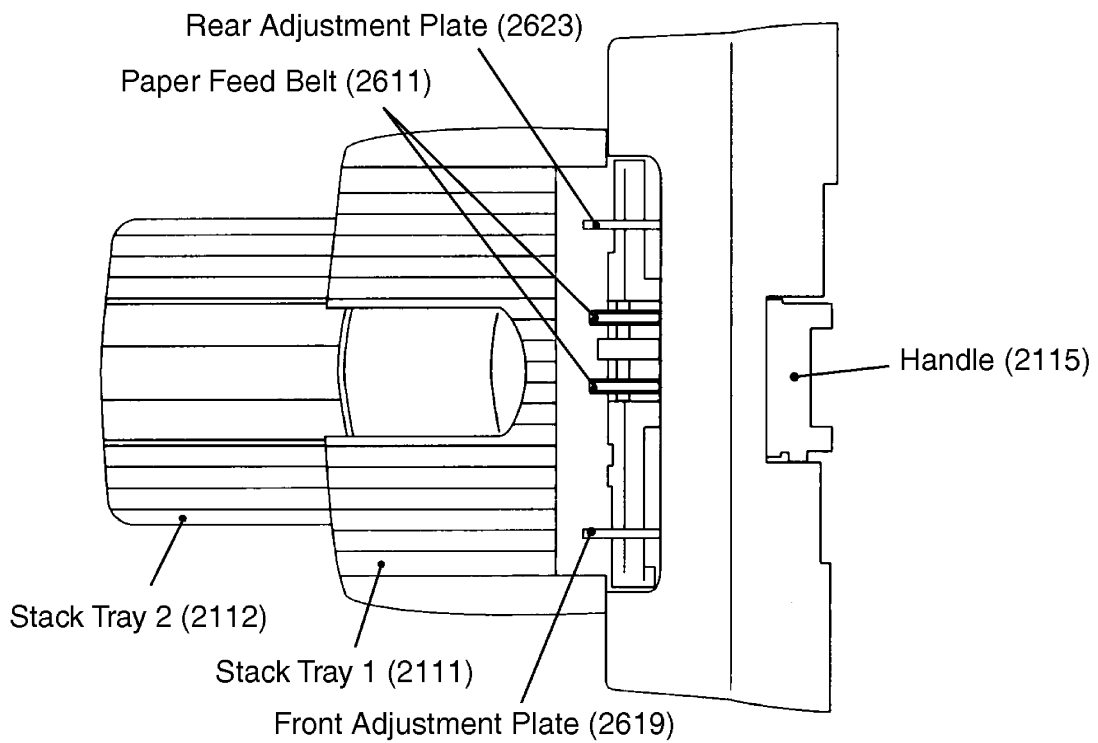
- \*1 Small-size : A4, A4-R, A5, A5-R, B5, B5-R  
: LTR, LT-R, INV, INV-R
- \*2 Middle-size : B4  
: LGL, FLS1, FLS2
- \*3 Large-size : A3  
: LDR
- \*4 Aligning width : Width of sheets to be aligned in back-to-front direction
- \*5 Offset width : Width of sliding sheet stack for sorting
- \*6 Offset stack allowed width : Width of sheets allowing aligning for sorting



**- Section View**



**- Top View**

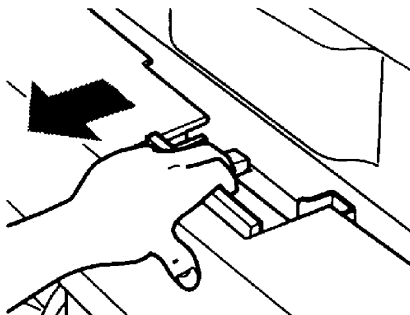


### 10.1.3. Operation

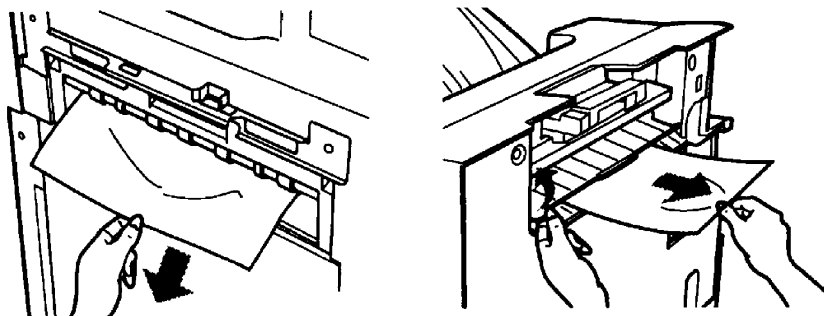
#### A. Removing a Paper Jam

Take the following steps to clear a Paper Jam at the Finisher:

1. Hold the Handle and pull the Finisher away from the Main Unit.



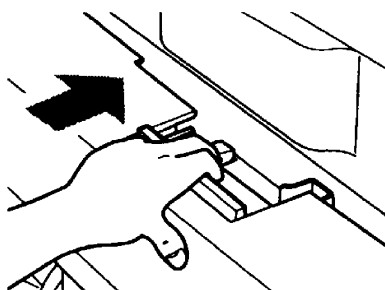
2. Remove the paper sheet protruding out of the unit.



**Note:**

When removing jammed paper, do not remove sheets on the Halfway-processing Tray.

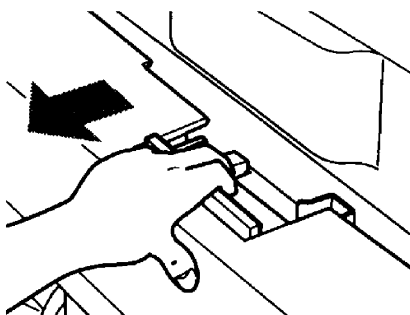
3. Push the Finisher toward the Main Unit.



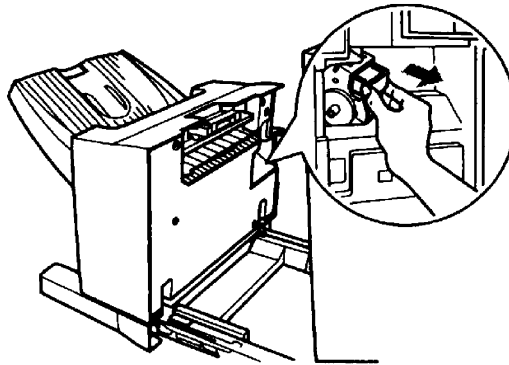
#### B. Loading Staples into the Staple Unit

Take the following steps if the Load Staples indication appears:

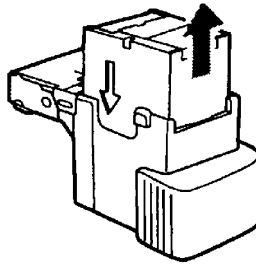
1. Hold the Handle and pull the finisher away from the Main Unit.



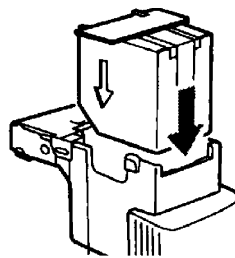
2. Hold the Staple Cartridge on both sides (green portions) and pull out the Cartridge.



3. Hold the empty Staple Container on both sides and remove the Container.



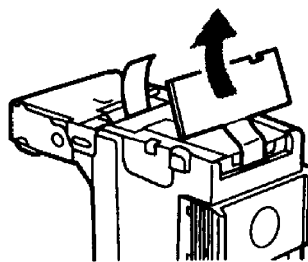
4. Insert a new Staple Container.



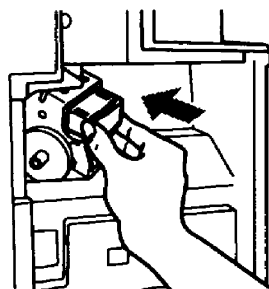
**Note:**

Only one Staple Container can be mounted at one time. Use only the Staple Cartridge provided specially for this model.

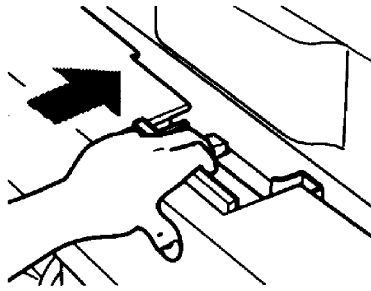
5. Peel away the Label that is holding the Staples.



6. Insert the Staple Cartridge into the Staple Unit.



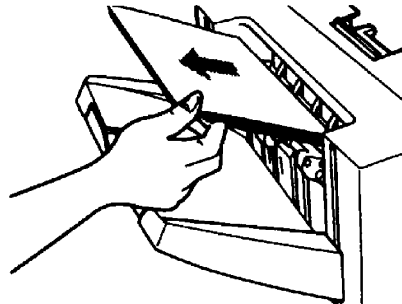
7. Push the Finisher toward the Main Unit.



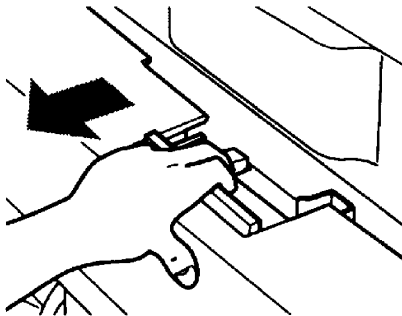
### C. Staple Jam in the Staple Unit

Take the following steps if a Staple Jam indication appears:

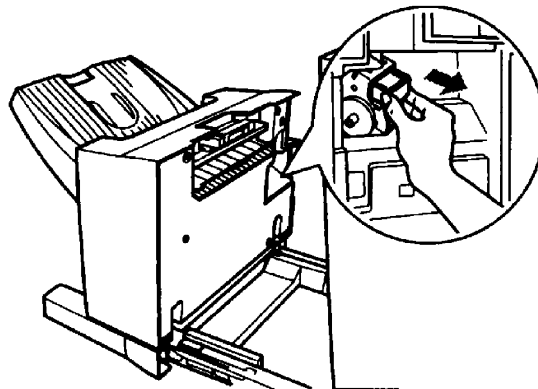
1. Remove the sheets to be stapled from the Processing Tray.



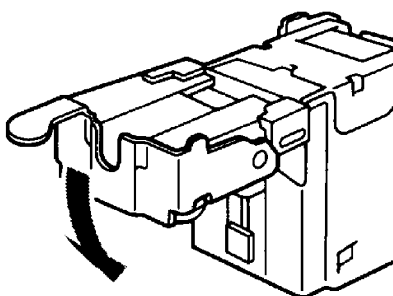
2. Hold the Handle and pull the Finisher away from the Main Unit.



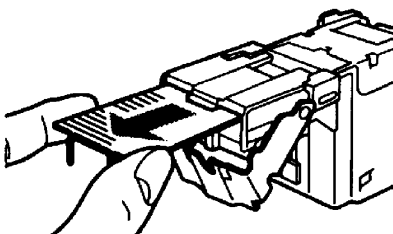
3. Hold the Staple Cartridge on both sides (green portions) and pull out the Cartridge.



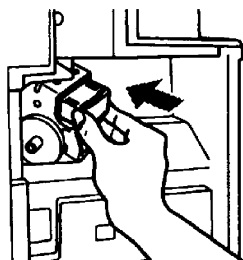
4. Hold down the Staple Cartridge knob.



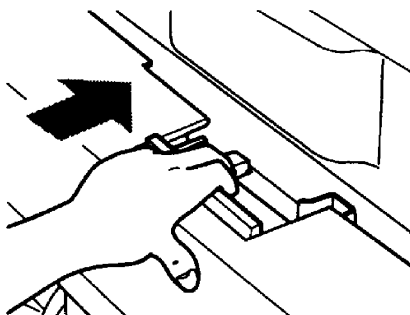
5. Remove all staples by sliding them out of the Staple Container.



6. Return the Staple Cartridge knob to the home position and insert the Staple Cartridge into the Staple Unit.



7. Push the Finisher toward the Main Unit.



#### 10.1.4. Customer Maintenance

##### A. Customer Maintenance

No.	Item	Timing
1	Replace the Staple Cartridge	When indicated on the Main Unit



## 10.2. Operations

1. This section describes purposes and roles of each function, relation between the electronic system and the mechanical system, and operation timings of each component. The outlines are described for each function.

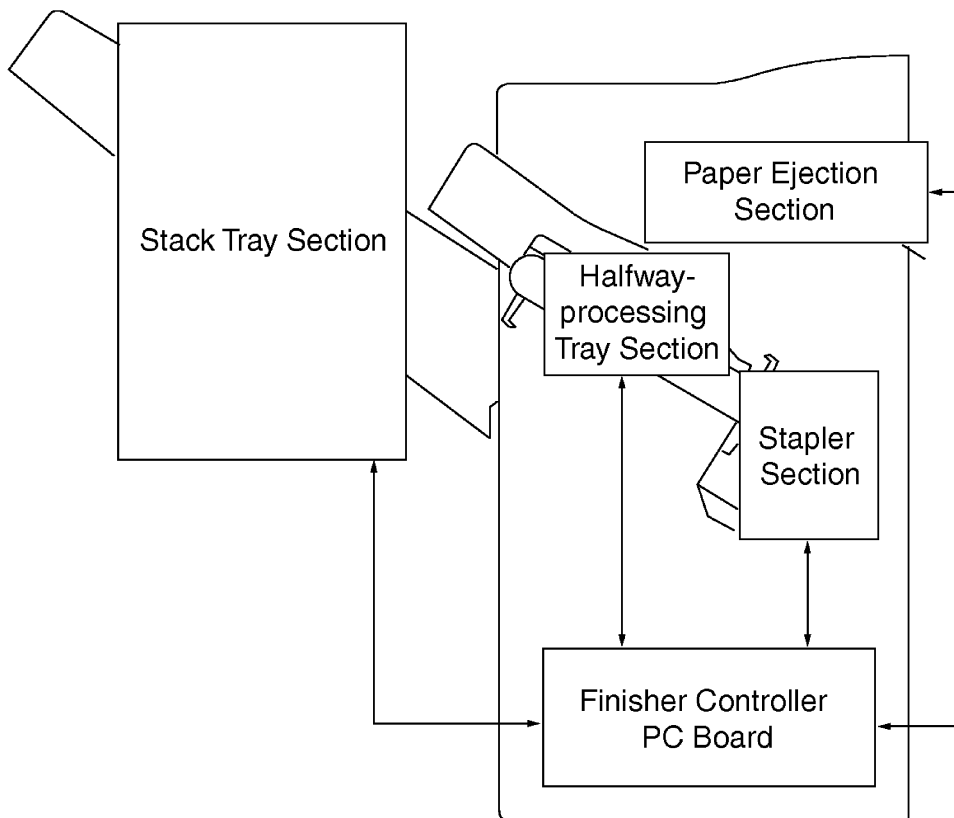
In the simplified diagrams, a "■" symbol indicates transmission of mechanical movement and "→" symbol with a signal name indicate flow of electric signal.

2. High voltage levels are indicated as "1", and low voltage levels are indicated as "0" in description of digital circuits for this unit. Voltage values differ depending on circuits. Descriptions of the circuits are ones for the two sections, from sensors to main board input and from main board output to the load and ones for block diagrams for each function.

### 10.2.1. Basic Configuration

#### A. Overview

This unit is composed of four blocks, Paper Ejection Section, Halfway-processing Section, Stapler Section, and Stack Tray Section. Simplified diagram of the functions are provided below:



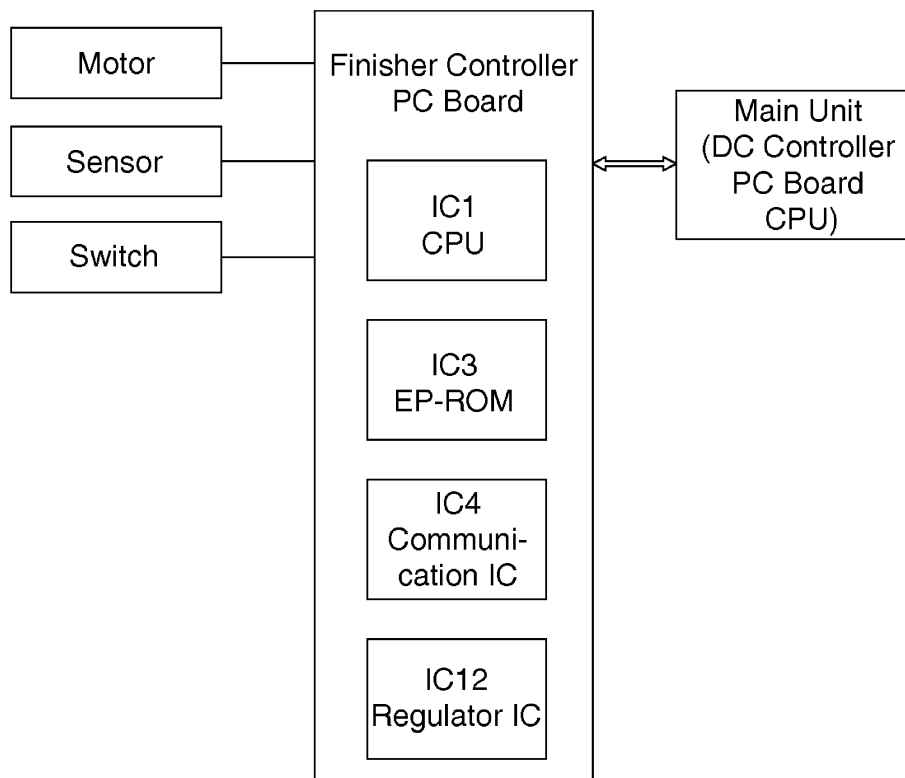
## B. Electrical Circuits Overview

The operation sequences of the Finisher are controlled by the Finisher Controller PC Board. The Finisher controller, which uses a 16-bit CPU, controls the sequences (mainly serial communication with the Main Unit).

The Finisher Controller CP Board drives the motor in response to the commands sent from the Main Unit via serial communication line. The Finisher Controller PC Board also sends information about sensors and switches to the Main Unit via serial communication.

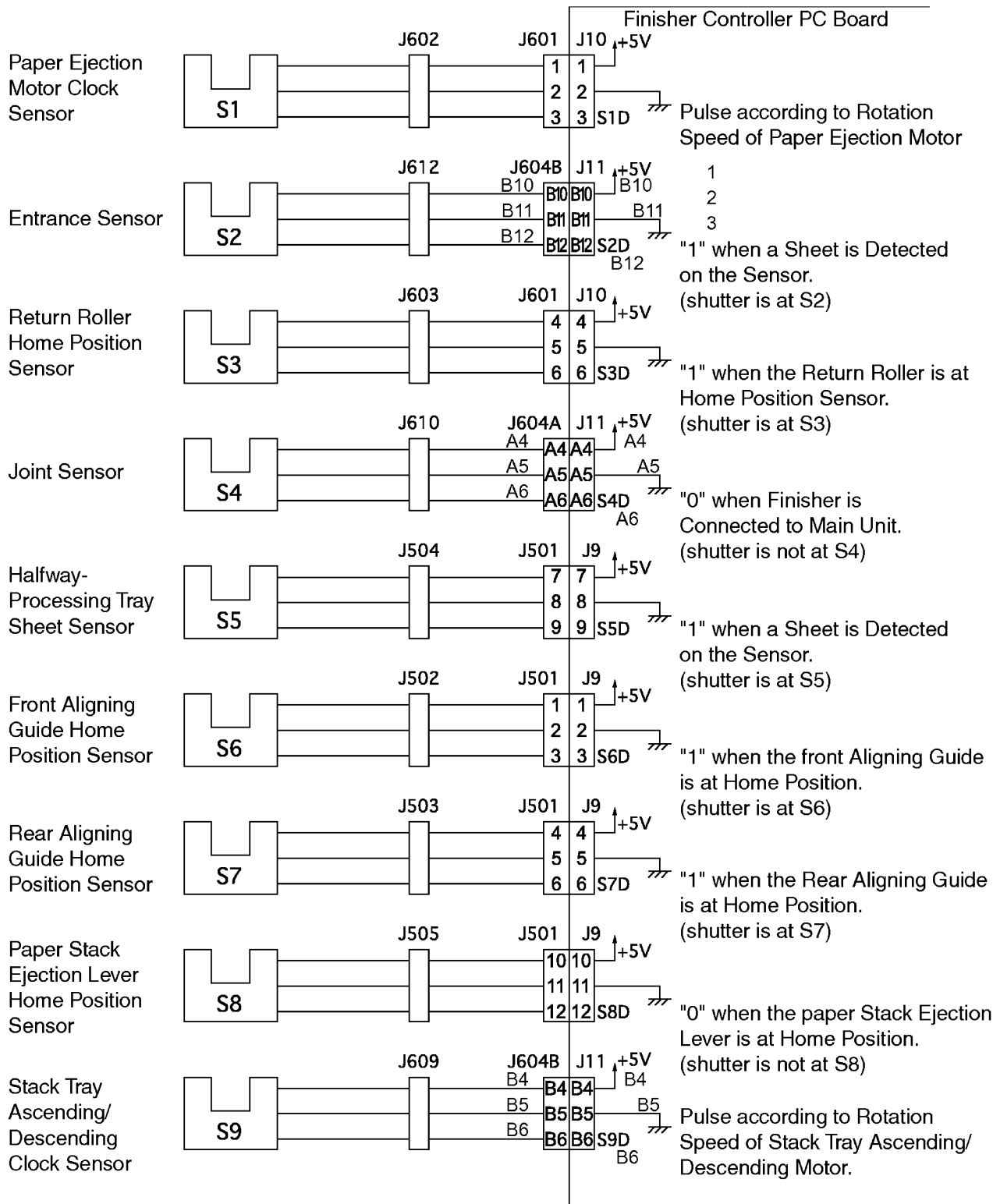
The ICs installed on the Finisher Controller CP Board has the following main functions:

- IC1 (CPU)  
Sequence control
- IC3 (EP-ROM)  
Contains sequence programs
- IC4 (communication IC)  
Communication with Main Unit
- IC12 (regulator IC)  
Generates 5-volt signals driving sensor and logic systems

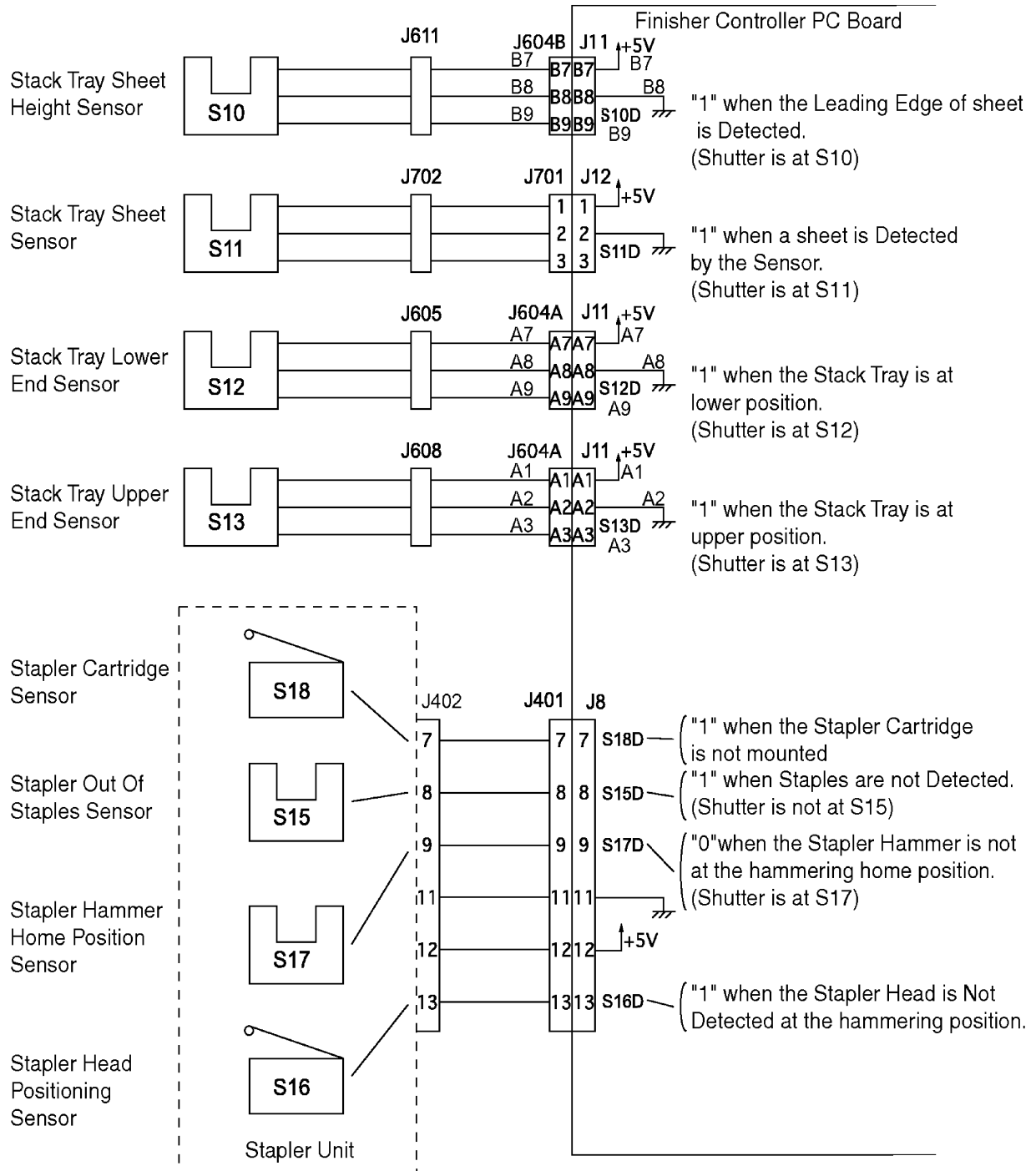


## C. Input/Output of the Finisher Controller PC Board

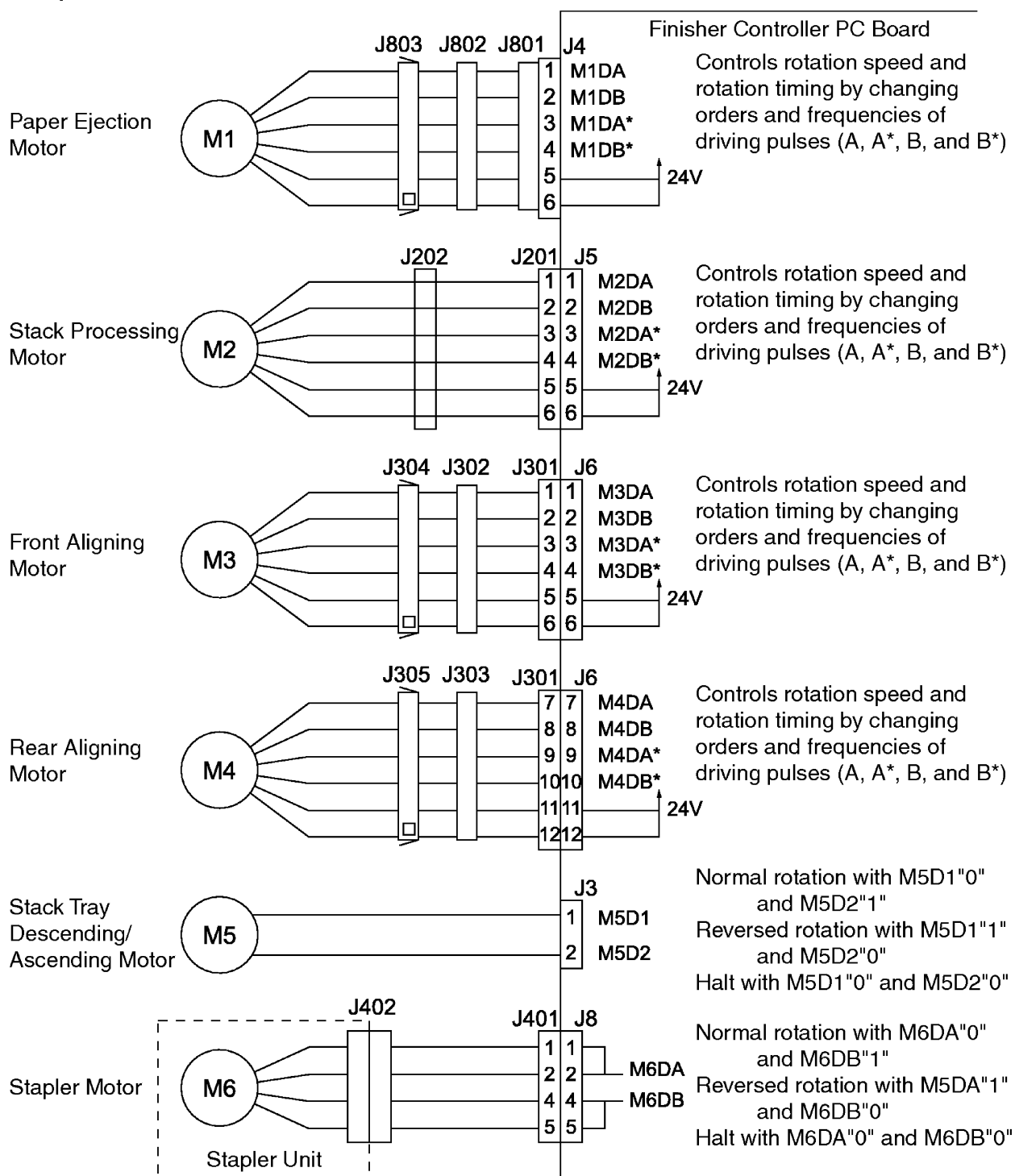
### • Input/Output of the Finisher Controller PC Board (1/2)



## • Input/Output of the Finisher Controller PC Board (2/2)



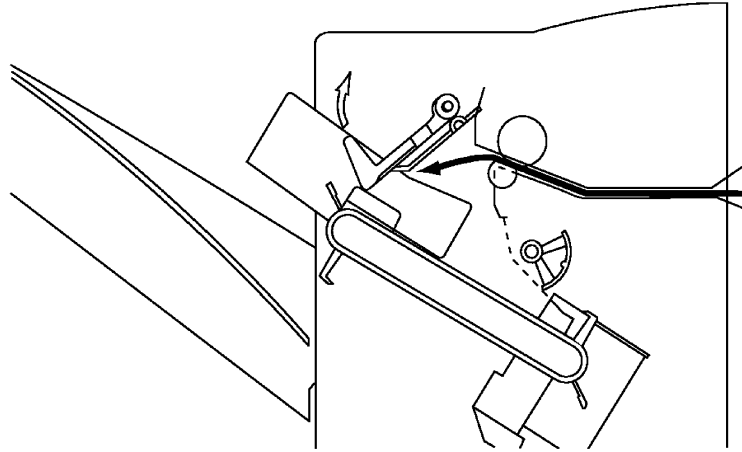
## • Output of the Finisher Controller PC Board



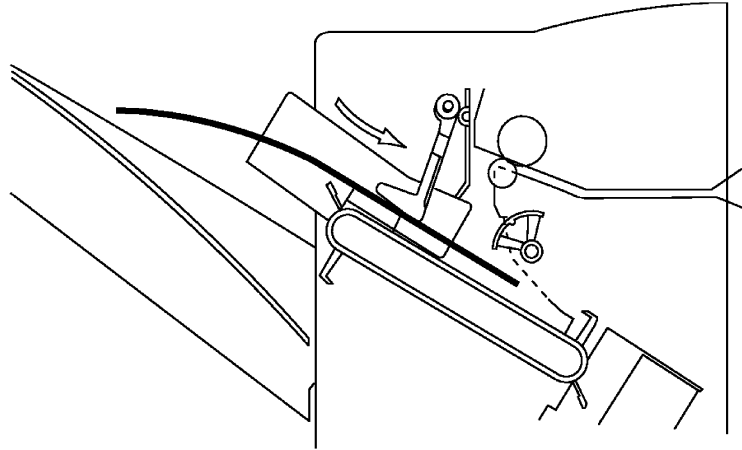
### 10.2.2. Basic Operation

Basic operation of the unit is illustrated below:

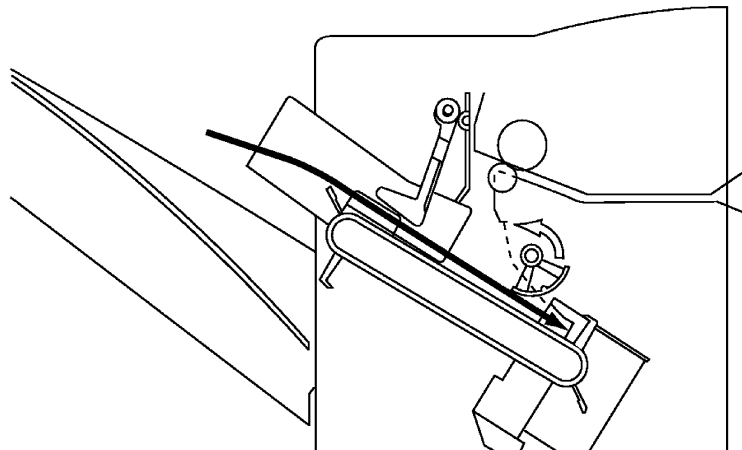
1. A sheet is carried from the Main Unit.



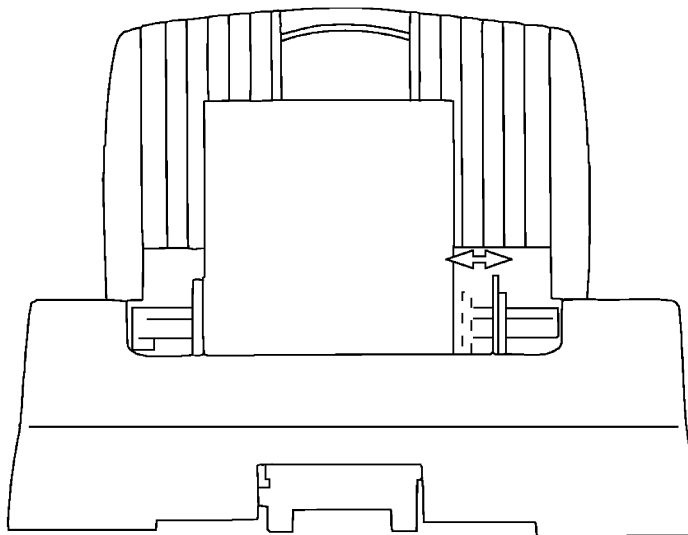
2. The sheet reaches the Halfway-processing Tray.



3. The sheet is fed by the Return Roller until it touches the Stopper Plate.

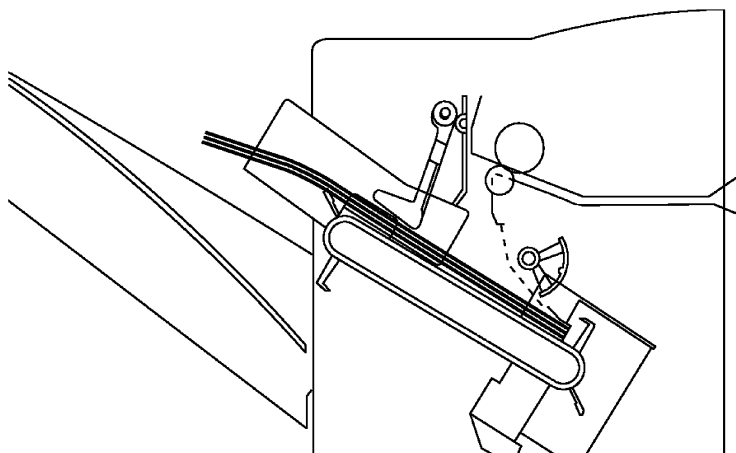


4. The sheet is aligned at a specified position by the Front/Rear Adjustment Plate.

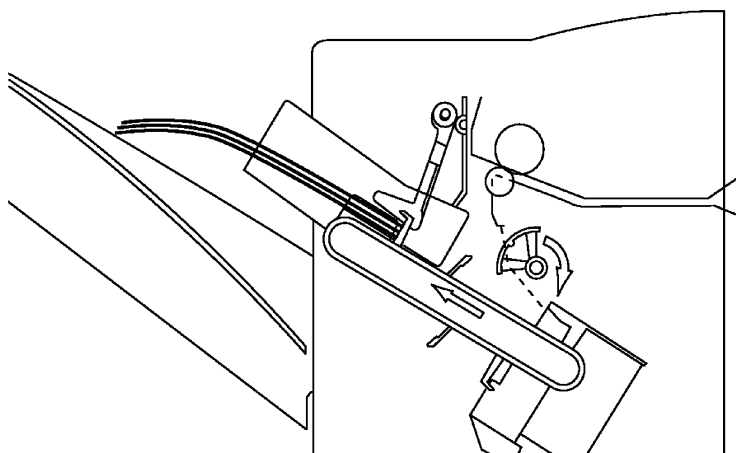


5. Steps 1 through 4 are repeated for a specified amount of sheets until a specified amount of sheets are loaded in the Halfway-processing Tray.

6. Sheets are stapled. (If stapling has been specified.)



7. Paper stack loaded in Halfway-processing Tray is ejected onto the Stack Tray.



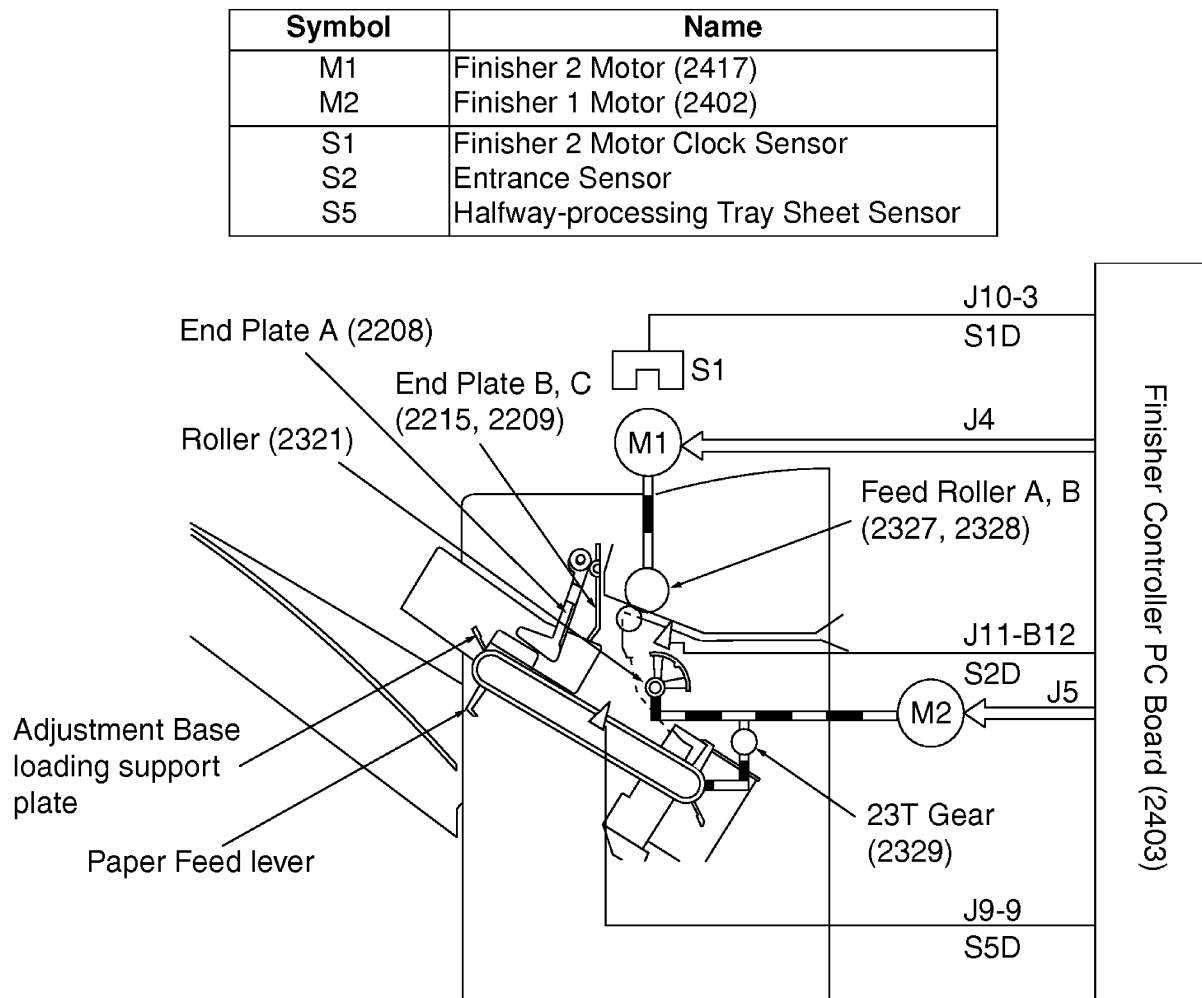
### 10.2.3. Sheet Carrier System

#### A. Overview

The sheets fed from the Main Unit are ejected onto the Halfway-processing Tray. The sheets are aligned, offset, and stapled, and then ejected to the Stack Tray.

Paper Jam in the unit is detected by Entrance Sensor (S2).

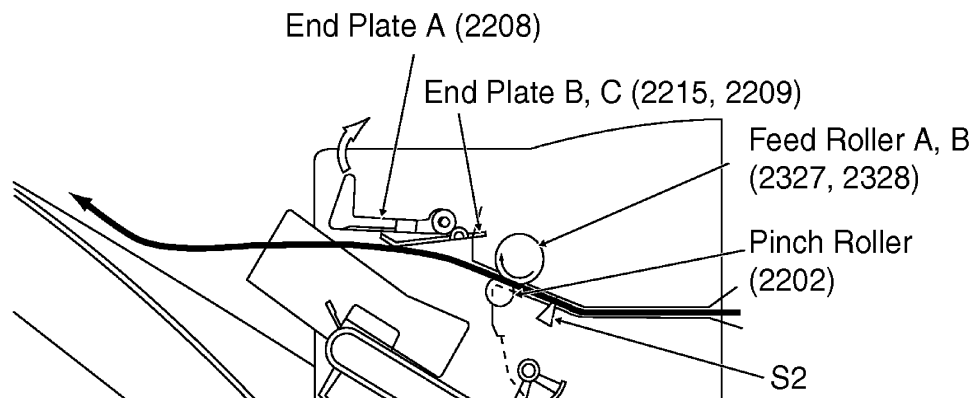
The figure below shows configuration of the sheet carrier system:



#### B. Paper Ejection

The sheets ejected from the Main Unit are carried to the Halfway-processing Tray by the Finisher Motor 2 (M1). Sheet transportation is detected by the Entrance Sensor (S2).

Paper ejection of the unit is provided with End Plates A and B. The End Plates A and B push down the rear end of a sheet with its own weight, guiding the ejected paper through the Return Roller.





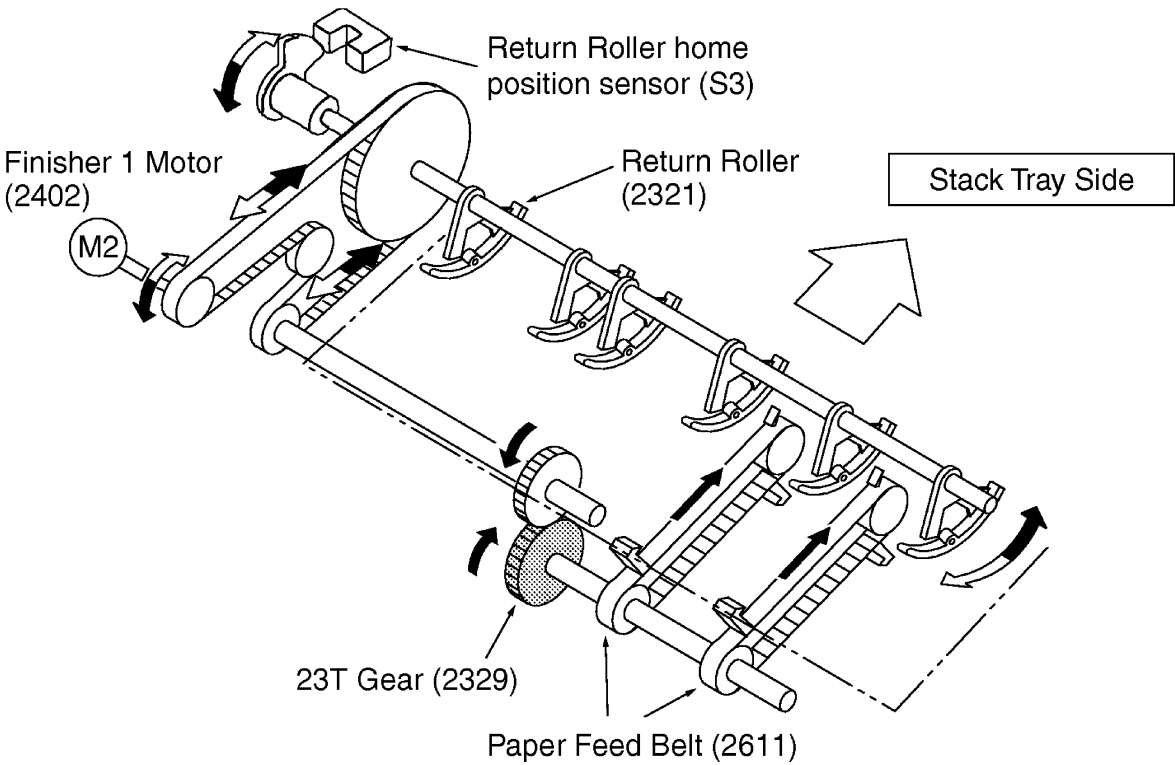
10.2.4. Halfway-processing Tray Section

A. Operation of Halfway-processing Tray

1. Overview

The Halfway-processing Tray is used to make up a paper stack for aligning, offsetting, and stapling the sheets ejected from the Main Unit.

The Halfway-processing Tray includes Return Rollers and Stack Processing Belts. The two Stack Processing Belts, provided with stack ejection levers, drive in parallel. The Halfway-processing Tray Sheet Sensor (S5) is turned on when the Halfway-processing Tray is loaded with sheets.



Motor Rotation	Driving	Arrow in Figure 2-401	Driving Torque
Normal	Paper Feed Belts Return Rollers		High
Reversed	Return Rollers		Low

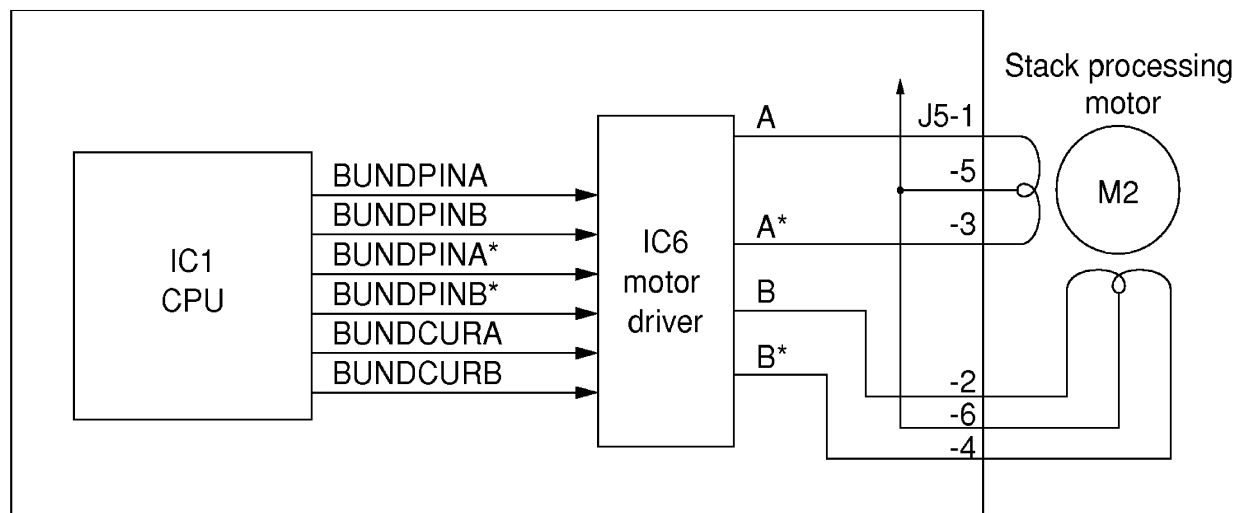
## 2. Finisher Motor 1 (M2) Control

The Finisher Motor 1 is a 4-phase Stepping Motor.

Switching of normal/reversed rotation of the motor, and motor rotation speed is controlled with the phase of pulse signals, PUNDPINA, BUNDPINA\*, BUNDPINB, and BUNDPINB\*. IC6 outputs pulse signals A, A\*, B, and B\* according to the change among PUNDPINA, BUNDPINA\*, BUNDPINB, and BUNDPINB\*, controlling normal/reversed rotation, and rotation speed of the motor.

Motor torque is controlled with a combination of current control signals BUNDCUR1 and BUNDCUR2, which are input to IC6.

This unit drives the motor in high torque, by normal rotation, when driving the Paper Feed Belts. The motor is driven in low torque, within reversed rotation, when driving the Return Roller.



## 3. Loading Capacity of the Halfway-processing Tray

Loading capacity of the Halfway-processing Tray is summarized in the table below.

If the specified number of sheets or the number of manuscripts exceeds the loading capacity, sheets of a maximum loading capacity are aligned and offset in the Halfway-processing Tray. Then, sheet stacks are ejected to the Stack Tray afterwards and the remaining sheets are aligned.

In offset aligning, the sheets in one stack are all offset in the same orientation.

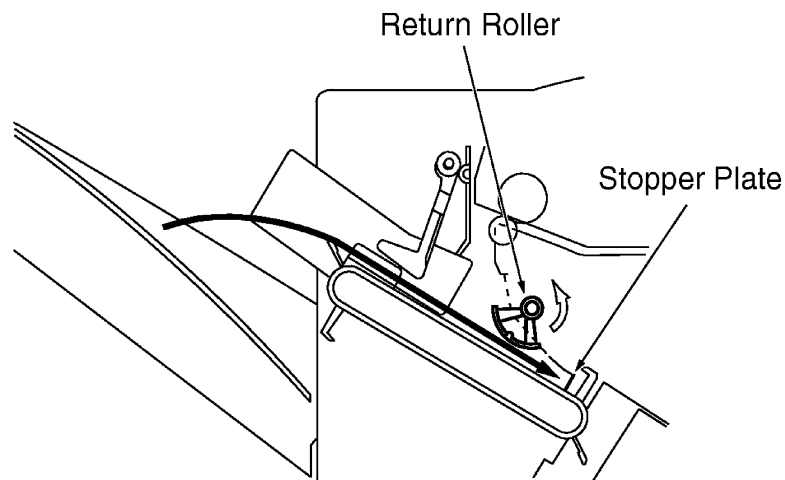
Small Size	Middle Size	Large Size
30	20	15

## B. Return Roller

### 1. Overview

The Return Rollers push the sheets fed from the Main Unit against the Stopper Plate, aligning the sheets in carrying direction.

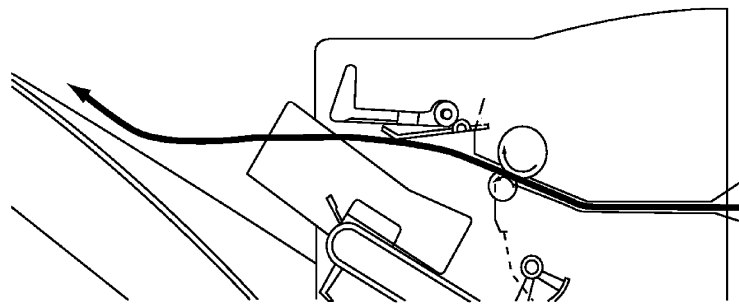
The Return Rollers drive in normal rotation when the Finisher Motor 1 drives in reversed rotation.



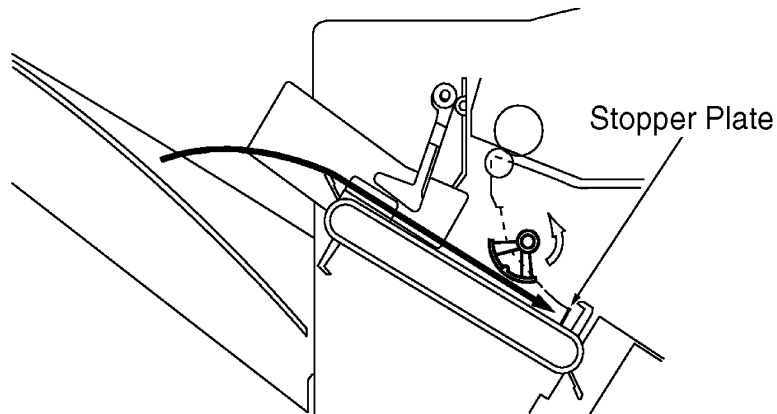
### 2. Operation Overview

Operation of the Return Roller is described below:

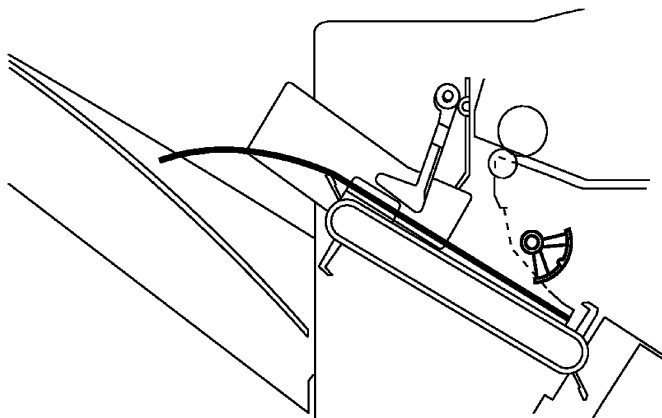
a. A Sheet is Ejected from the Main Unit.



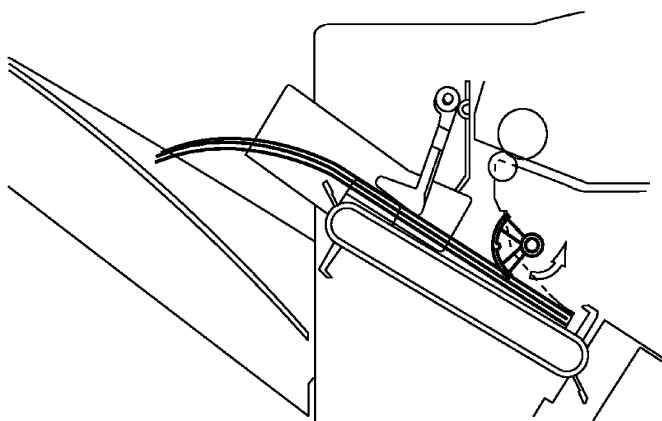
b. The Return Rollers rotate in normal direction, pushing a sheet reaching the Halfway-processing Tray against the Stopper Plate.



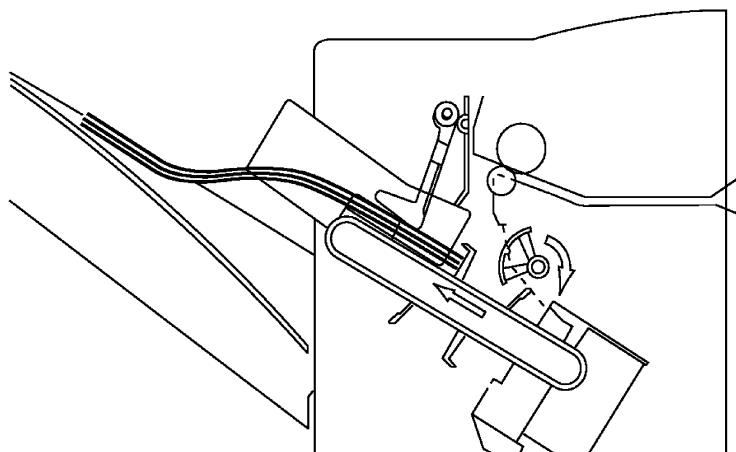
c. The rollers rotate for one turn and stop at home position.



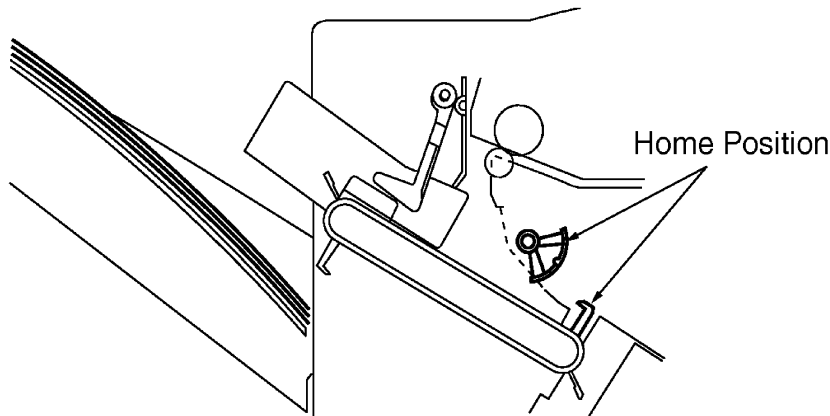
d. Upon ejection of the next sheet, the unit repeats operations in steps 1 through 2, generating a sheet stack. When the last paper of each stack is pushed against the Stopper Plate, the Return Rollers pass through the home position and stop after rotating 1/8 turn.



e. After completion of aligning the sheets of the first stack, the Paper Feed Lever ejects the stack. At the same time, the Return Rollers rotate in reverse direction. The Return Rollers, out of its home position, do not interfere with the Paper Stack.

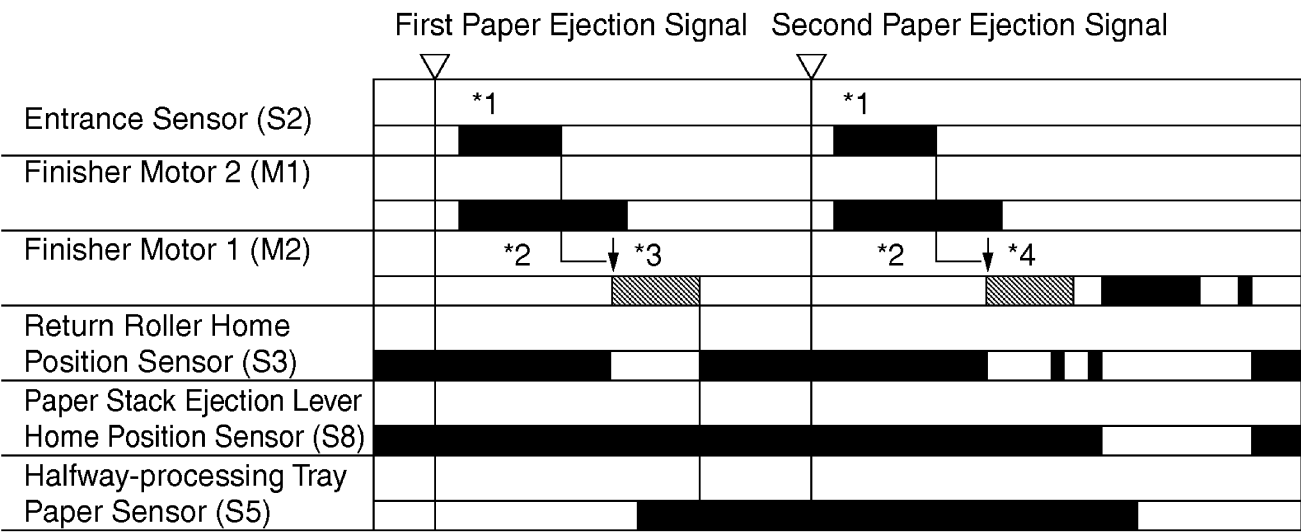


f. The Stack Processing Belt reaches its home position, finishing stack ejection. At the same time, the Return Rollers stop at home position.



g. From then on, steps 1 through 6 are repeated upon feeding of sheets for making the next stacks.

3. Timing Chart



- :Normal rotation (paper ejection)    ▨ :Reversed rotation (return)
- \*1: Depends on paper length
  - \*2: 0.2 seconds
  - \*3: Approx. 0.35 seconds
  - \*4: When ejecting paper stack, the roller rotates a 1/8 turn after it reaches return roller home position sensor, for avoiding interference with a paper stack.

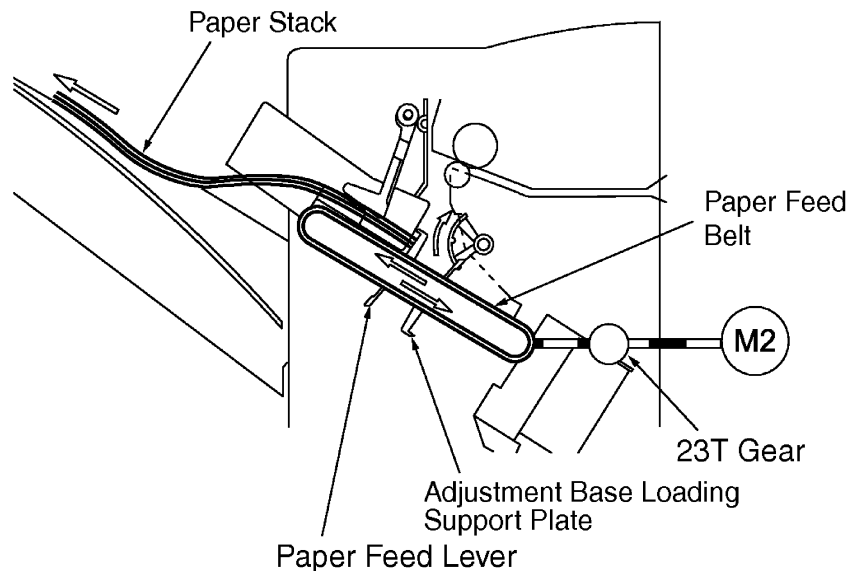
## C. Driving Paper Feed Belts

### 1. Overview

The Paper Feed Belts are driven when the Finisher Motor 1 (M2) rotates in normal direction. The two belts operate in parallel at the same time. The Paper Feed Belts are provided with two Paper Feed Levers, which are placed in back-to-back positions.

The Finisher Motor 1 (M2) is driven upon turning on the power of the Main Unit, places the Paper Feed Levers at their home positions.

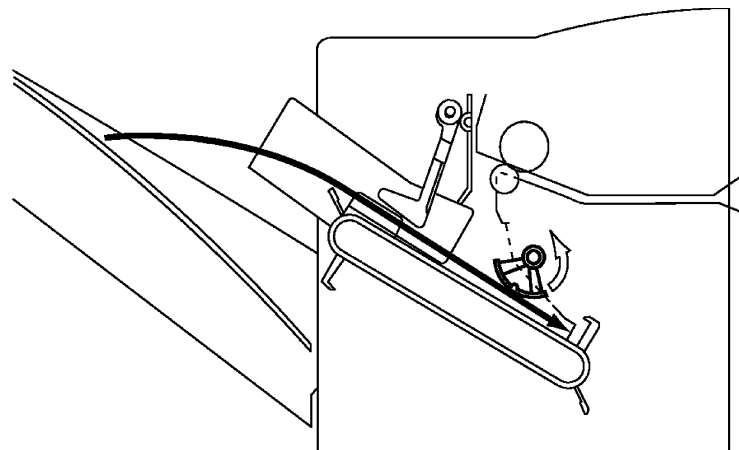
One operation of paper stack ejection is completed by a half turn of the belts.



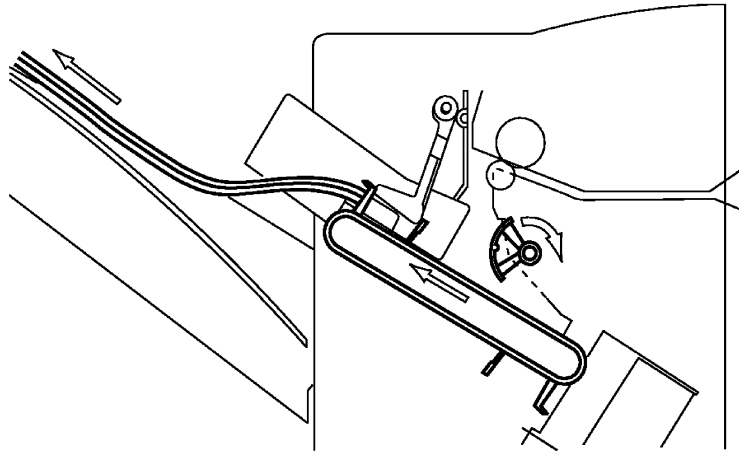
### 2. Operation Overview

Operation of the Paper Feed Belts is described below:

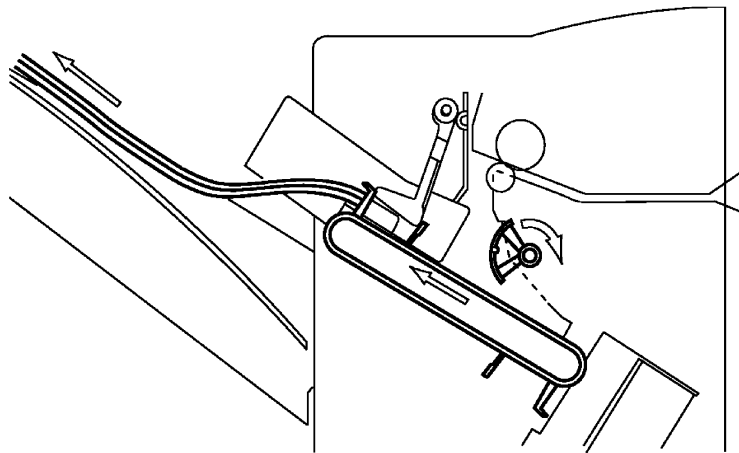
- a. Upon turning on the copy start key of the Main Unit, the sheets are loaded onto the Halfway-processing Tray. The Return Roller push the sheet against the Stopper Plate, aligning the sheets. A specified number of sheets are loaded onto the Halfway-processing Tray.



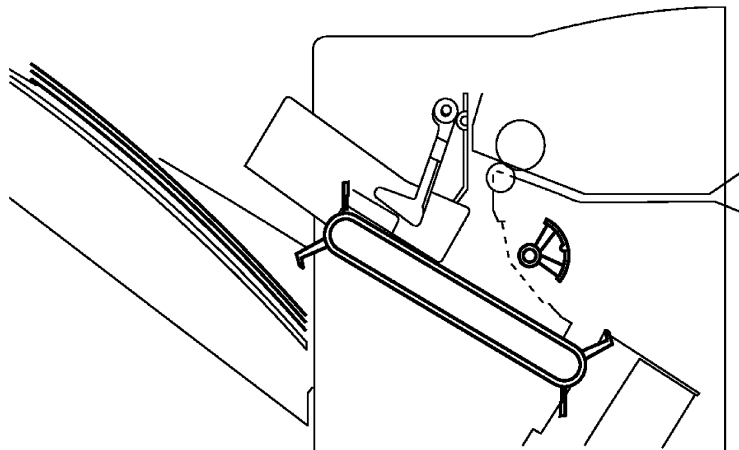
b. Paper stack is carried toward the Stack Tray by the Paper Feed Lever, which is driven by the Paper Feed Belts.



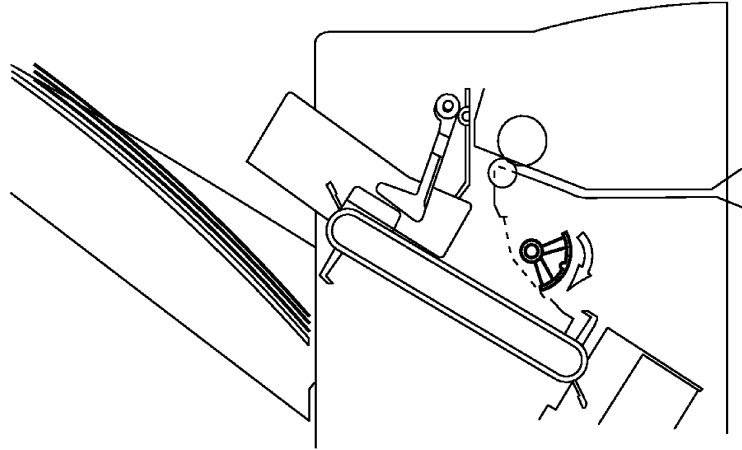
c. Paper feed belts are slowed down immediately before the paper stack is ejected onto the Stack Tray. Irregularity in the paper stack is avoided by the slowing-down operation.



d. The belts stop temporarily, after ejecting the paper stack onto the Stack Tray.



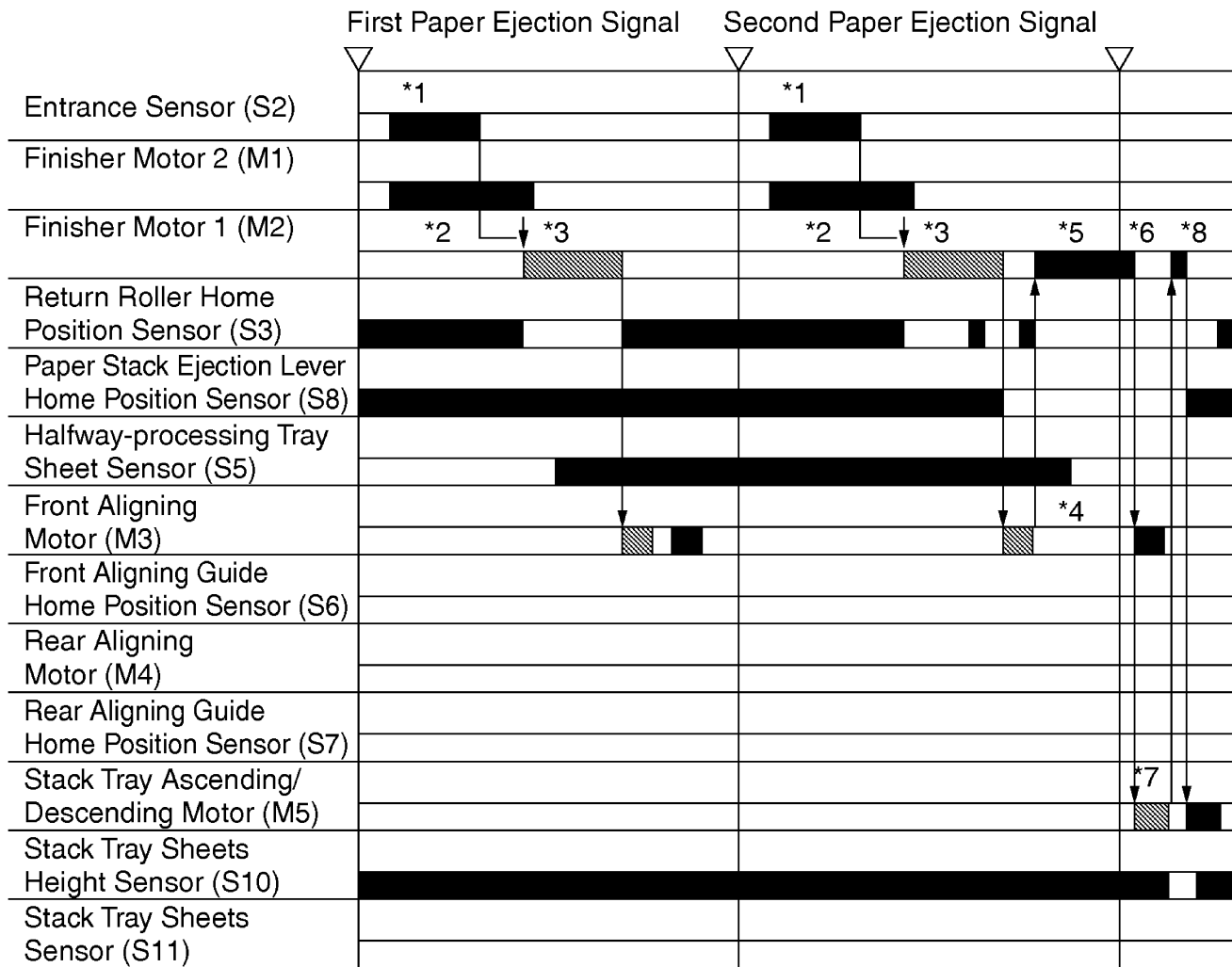
- e. After the Stack Tray descends, the Paper Feed Belts and the Return Rollers move to their home position simultaneously, waiting for the next sheet of paper.







### 3. Timing Chart

#### • No stapling



 :Normal rotation (paper ejection)    
  :Reversed rotation (return)

Finisher Motor 1: Normal rotation-> Paper ejection/  
 Reversed rotation -> Return

Front Aligning Motor: Normal rotation-> Forward movement/  
 Reversed rotation -> Backward movement

Rear Aligning Motor: Normal rotation-> Backward movement/  
 Reversed rotation -> Forward movement

Stack Tray Ascending/Descending Motor: Normal rotation -> Ascending/  
 Reversed rotation-> Descending

\*1: Depends on paper length

\*2: 0.2 seconds

\*3: Approx. 0.35 seconds

\*4: Depends on paper length

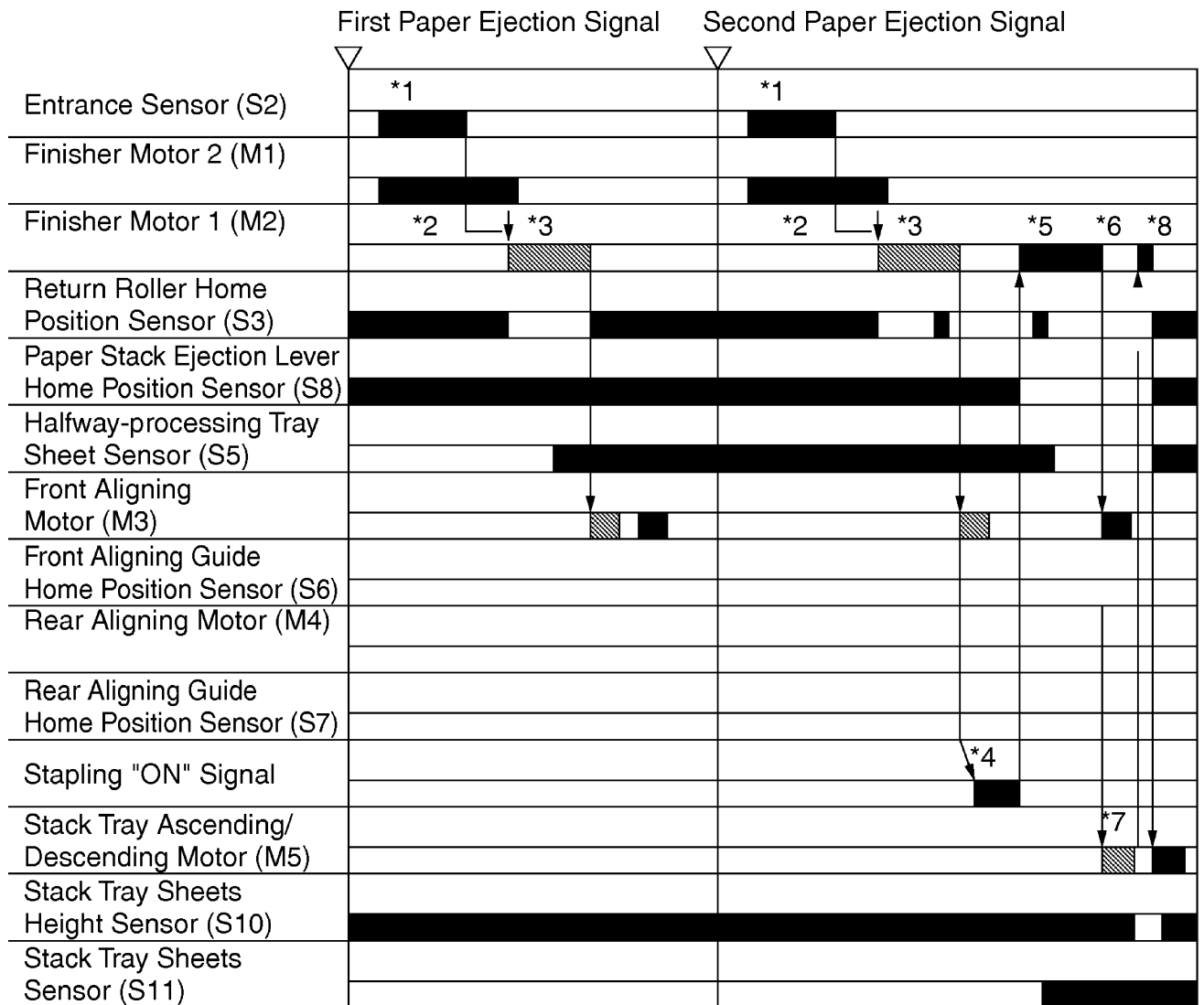
\*5: Approx. 0.5 seconds

\*6: Stops temporarily

\*7: Drives until the sheet height sensor for the stack tray turns off.

\*8: After the stack tray descends and halts, the motor drives until the tray reaches the paper stack ejection lever position sensor.

• **With stapling**



■ :Normal rotation (paper ejection)      ▨ :Reversed rotation (return)  
 Finisher Motor 1: Normal rotation-> Paper ejection/Reversed rotation -> Return  
 Front Aligning Motor: Normal rotation-> Forward movement/  
     Reversed rotation -> Backward movement  
 Rear Aligning Motor: Normal rotation-> Backward movement/  
     Reversed rotation -> Forward movement  
 Stack Tray Ascending/Descending Motor:Normal rotation -> Ascending/  
     Reversed rotation-> Descending

\*1: Depends on paper length

\*2: 0.2 seconds

\*3: Approx. 0.35 seconds

\*4: Turned on 0.1 seconds after return roller is turned off.

\*5: Approx. 0.5 seconds

\*6: Stops temporarily

\*7: Drives until the sheet height sensor for the stack tray turns off.

\*8: After the stack tray descends and halts, the motor drives until the tray reaches the paper stack ejection lever position sensor.

D. Aligning/Offsetting

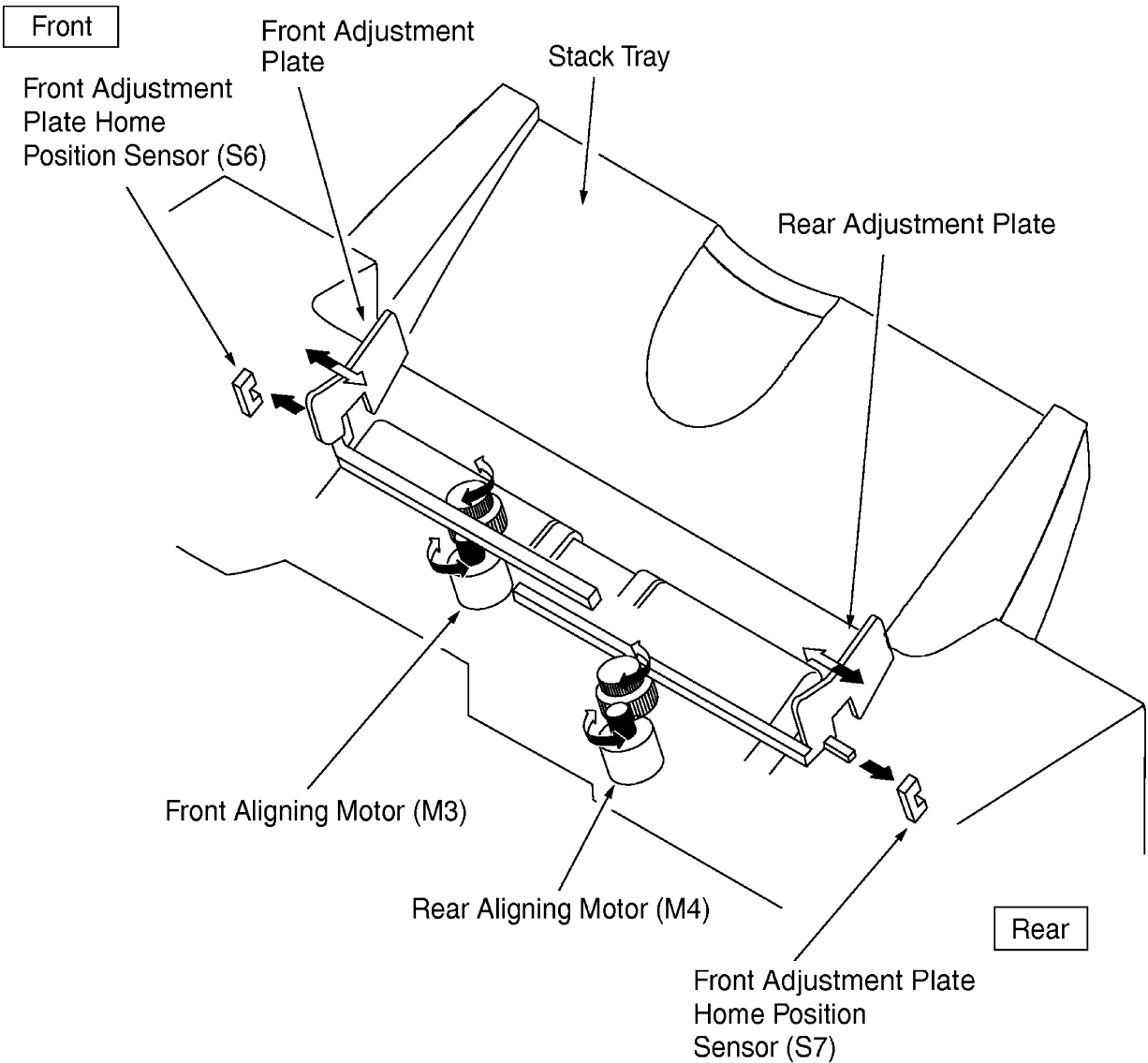
1. Overview

The sheets are aligned by the sides, in the Halfway-processing Tray, using Front/Rear Adjustment Plates.

The front aligning motor (M3) drives the Front Adjustment Plate, and the rear aligning motor (M4) drives the Rear Adjustment Plate. The Front Adjustment Plate Home Position Sensor (S6) and the Rear Adjustment Plate Home Position Sensor (S7) detect the home positions of the Adjustment Plates.

The aligning positions and aligning sizes are summarized below:

Sorting Type	Aligning Position
Non-sorting	Offset aligning (front)
Stapled sorting	Aligning at back
Sorting	Offset aligning



## 2. Control of the Aligning Motor

The motors are both 4-phase stepping motors.

For controlling the motors, the signals shown below are output from IC1 (CPU).

Type	Aligning Position	Controlling Motor
Motor rotation direction/speed	JOGPINA JOGPINB	Front Aligning Motor Rear Aligning Motor
Motor driving permission	FJOGPER BJOGPER	Front Aligning Motor Rear Aligning Motor
Driving current switching	FJOGCUR BJOGCUR	Front Aligning Motor Rear Aligning Motor

IC1 control timings of JOGPINA and JOBPINB according to the driving direction (normal or reversed rotation), and rotation speeds.

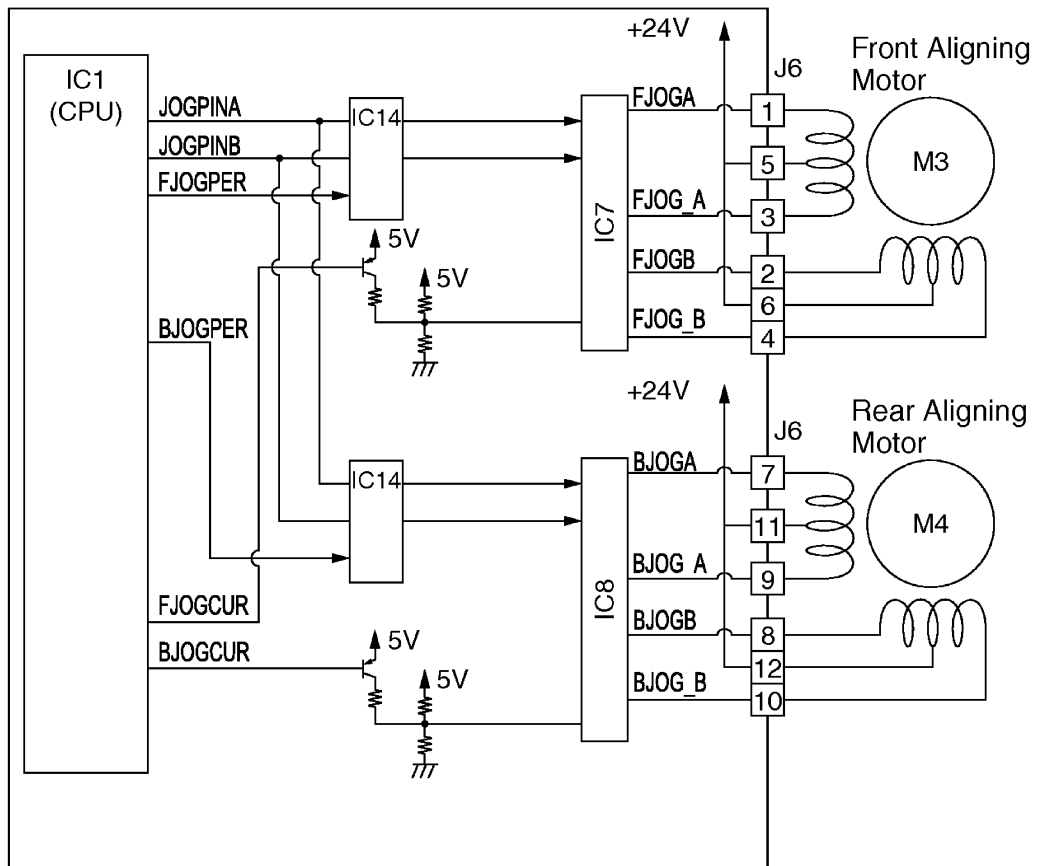
IC1 outputs either FJOGPER or BJOGPER signal depending on which of the two motors to drive, namely, front or rear aligning motor. IC14, upon output of FJOBPER, sends JOGPINA and JOGPINB to IC 7 (motor driver IC). IC7, then, outputs a 4-phase motor driving signal (FJOBA, FJOGB, FJOG\_A and FJOB\_B) in accordance with the signal, JOGPINA and JOBPINB. Similarly, IC14, upon output of BJOGPER, sends JOGPINA and JOBPINB to IC8 (motor driver IC). IC8, then, outputs a 4-phase motor driving signal (FJOGA, FJOGB, FJOG\_A and FJOB\_B) in accordance with the signal, JOGPINA and JOBPINB. FJOGPER and BJOGPER are motor driving permission signals.

A motor with an output signal is driven. IC7 and IC8 keep sending the phase of a last signal, holding the motor operation.

FJOGCUR and BJOGCUR output from IC1 are current-switching signal for motors.

Status	Control Current
Driving Motor	High current (high torque)
Holding Motor	Low current (low torque)

# Finisher Controller PC Board

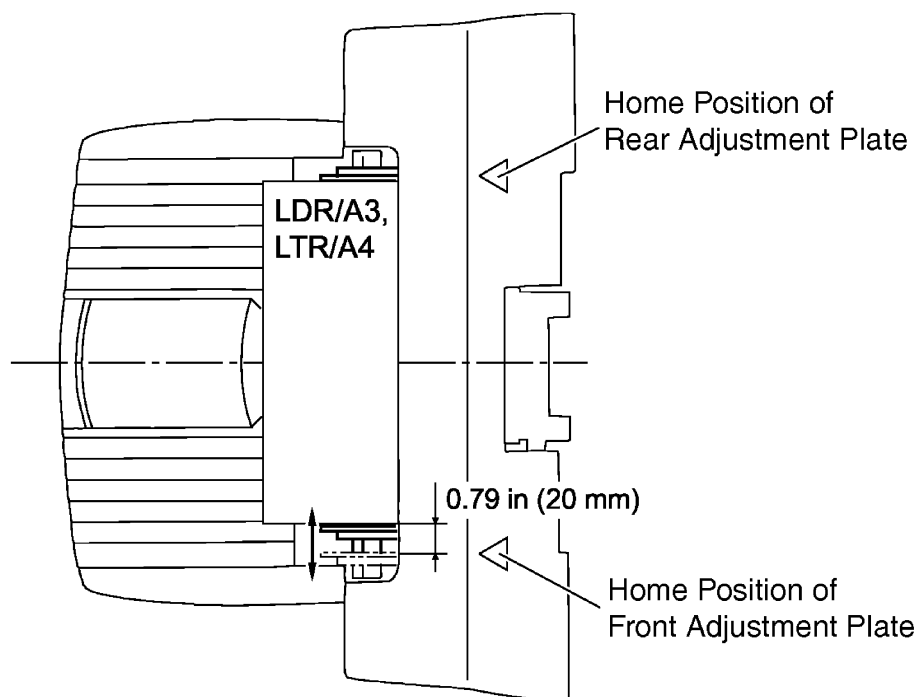
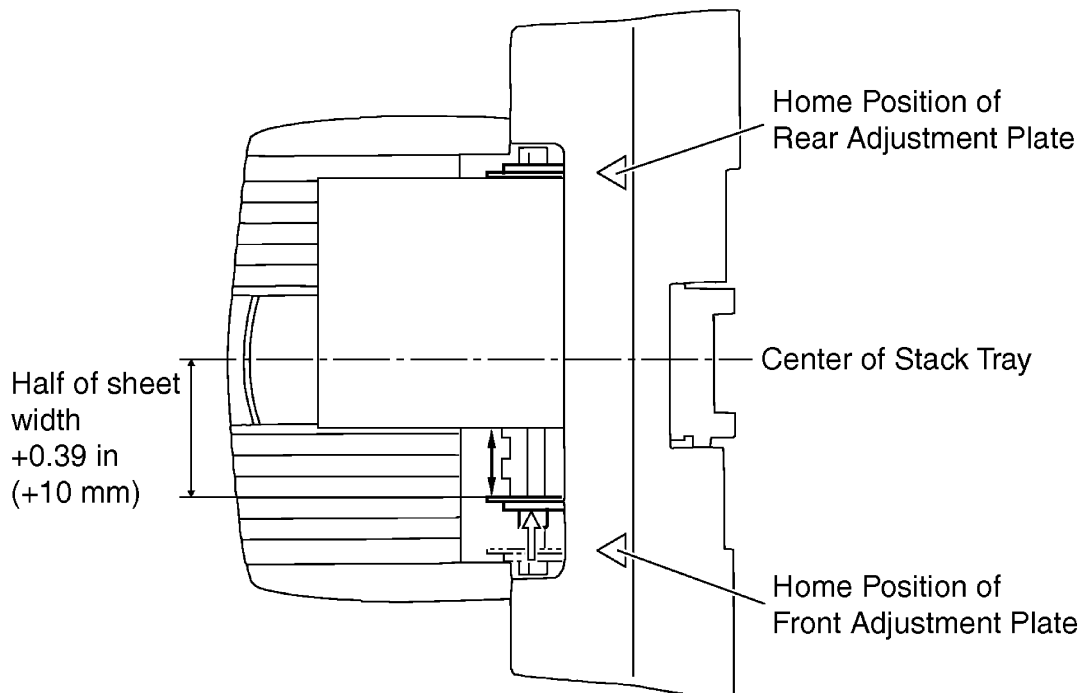


### 3. Rear Aligning (for Stapled Sorting)

Since the Stapler on the unit is mounted at the rear end, the sheets are aligned at the rear for stapling. After turning on the copy start key, with sheet size data sent from the Main Unit, the Rear Adjustment Plate moves to its home position, and the Front Adjustment Plate moves to a position which is away from the center of the Stack Tray for a distance of half of a sheet width, plus 10 mm forward and then standby.

A sheet ejected from the Main Unit is carried to the Halfway-processing Tray.

A sheet, after loaded into the Halfway-processing Tray, is pushed against the Stopper Plate by the Return Rollers, and aligned in the transportation direction. The operation moves the sheet to the stapling position. Afterwards, the Front Adjustment Plate is driven and the sheet is aligned at the rear end.



#### 4. Offset Aligning (Non-stapling)

##### • Sorting

Upon sorting, the sheet stacks are aligned by dislocating the stacks in the Halfway-processing Tray. The operation is called "offset aligning." Offsetting amount for the sheet stacks is 0.79 in (20 mm). Offsetting direction (forward/backward) for a first copy is opposite to that of a previous job. If the last portion of a previous job was offset in forward direction, the first copy of a current job is offset in backward direction. If the last portion of a previous job was offset in backward direction, the first copy of a current job is offset in forward direction.

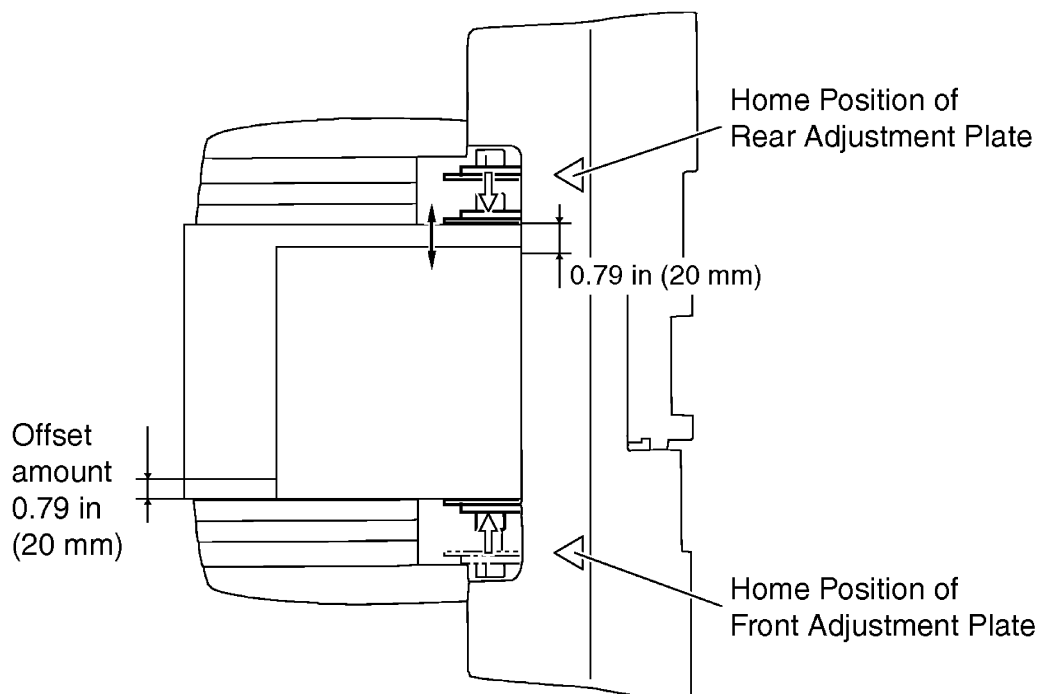
The Finisher Controller PC Board, upon receiving sheet size data sent from the Main Unit, moves the front and Rear Adjustment Plates simultaneously to move the sheet to a position of sheet width + 10mm when placed at the center of the Stack Tray.

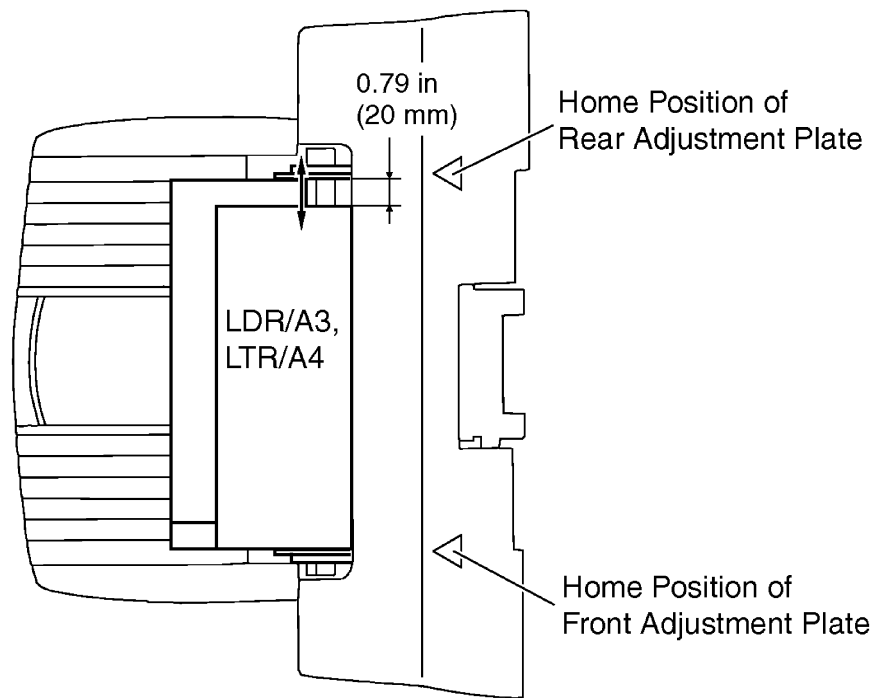
When aligning a sheet, only the front or Rear Adjustment Plate is moved for aligning. The Rear Adjustment Plate moves to an end of a sheet to be offset for aligning at the front, or the Front Adjustment Plate moves to an end of a sheet to be offset for aligning at the rear.

For sheet sizes of LTR/A4 and LDR/A3, however, the home position of the Front Adjustment Plate is an offset reference position for aligning at the front, and the home position of the Rear Adjustment Plate is an offset reference position for aligning at the rear. In that case, the Adjustment Plates (Rear Adjustment Plate when aligning at front, or Front Adjustment Plate when aligning at the rear) also stands by at the home position.

For aligning, the Adjustment Plates are moved from their home positions to the ends of the sheets to be offset.

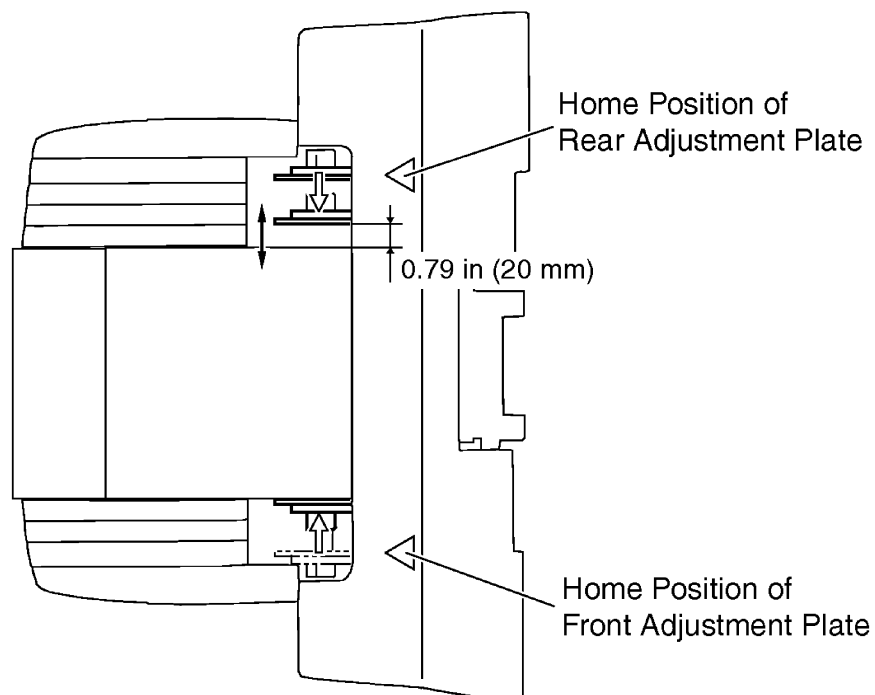
If a specified number of the sheets or the number of manuscripts exceeds the loading capacity of the Halfway-processing Tray, the sheets beyond the maximum capacity are ejected once. Then, aligning of the succeeding sheets is continued in the same direction.



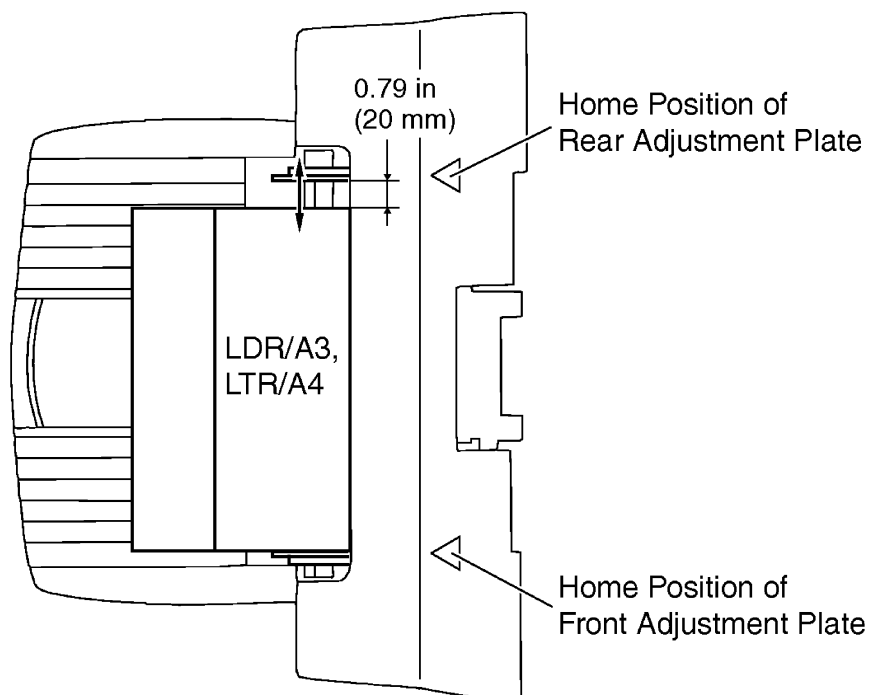


- **Non-sorting**

In a non-sorting operation, the sheets are aligned at an offset position at the front, the end where sheets are aligned in the case of a operation with sorting.





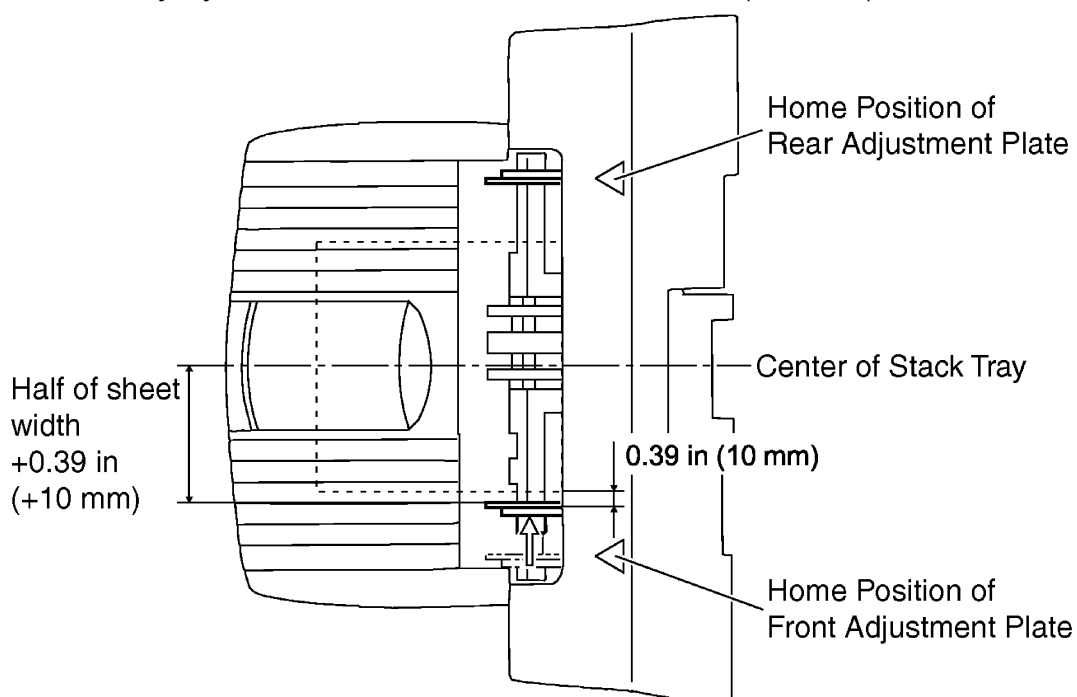


## 5. Operation Overview

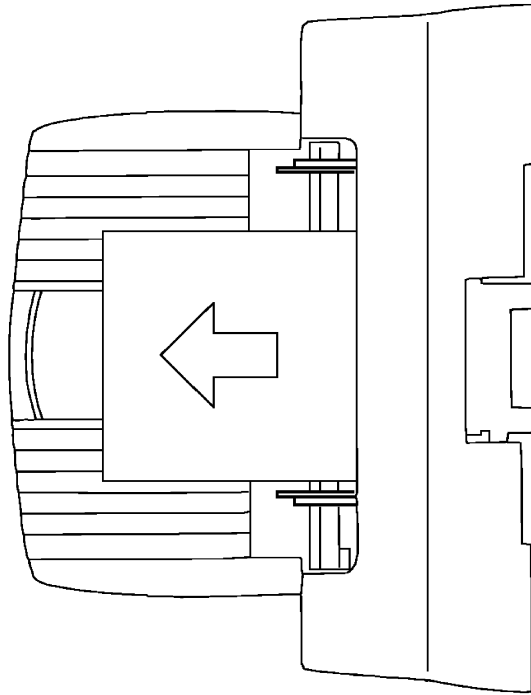
### • Stapled sorting

Operation of stapled sorting is described below:

- Turn on the copy start key on the Main Unit.  
Data including the existence of stapling and sheet size, etc. is sent from the Main Unit.
- The Front Adjustment Plate moves from its home position to the position away from the center of the Stack Tray, by half the width of the sheet size + 0.39 in (+ 10 mm).

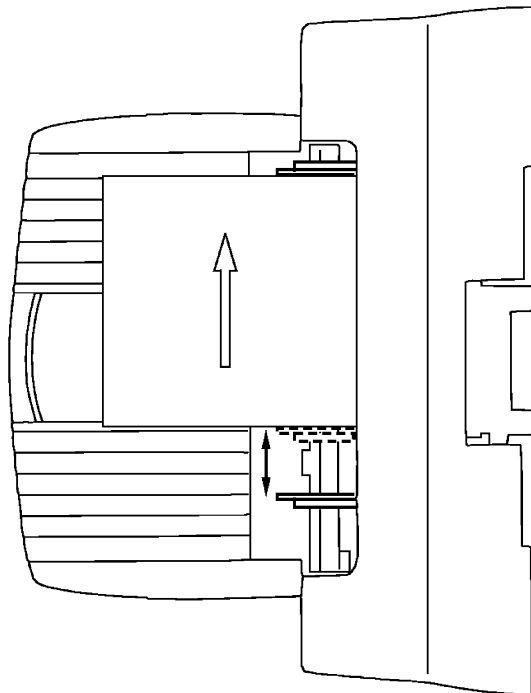


c. Load the Halfway-processing Tray with paper.



d. Align a sheet by moving the Front Adjustment Plate.

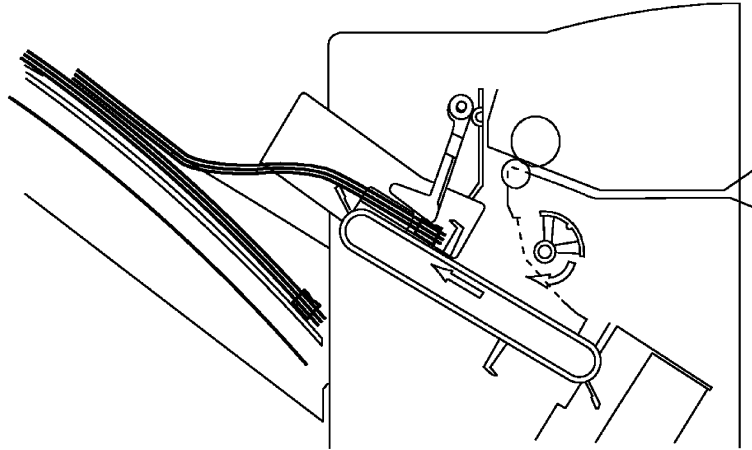
e. The Front Adjustment Plate returns to the position in step 2 above.



f. Repeat steps 3 through 5 for each sheet ejected from the Main Unit.

g. Upon completion of aligning the first stack, stapling starts.

h. Drive the Stack Processing Belts and eject the paper stack onto the Stack Tray.



i. Move up/down the Stack Tray to place the Stack Tray at a specified level.

j. From then on, repeat steps 3 through 8.

**Note:**

If the number of sheets exceeds the capacity of the Halfway-processing Tray, the paper stack on the Halfway-processing Tray is ejected onto the Stack Tray without being stapled. The remaining sheets are not stapled either.

• **Offset aligning**

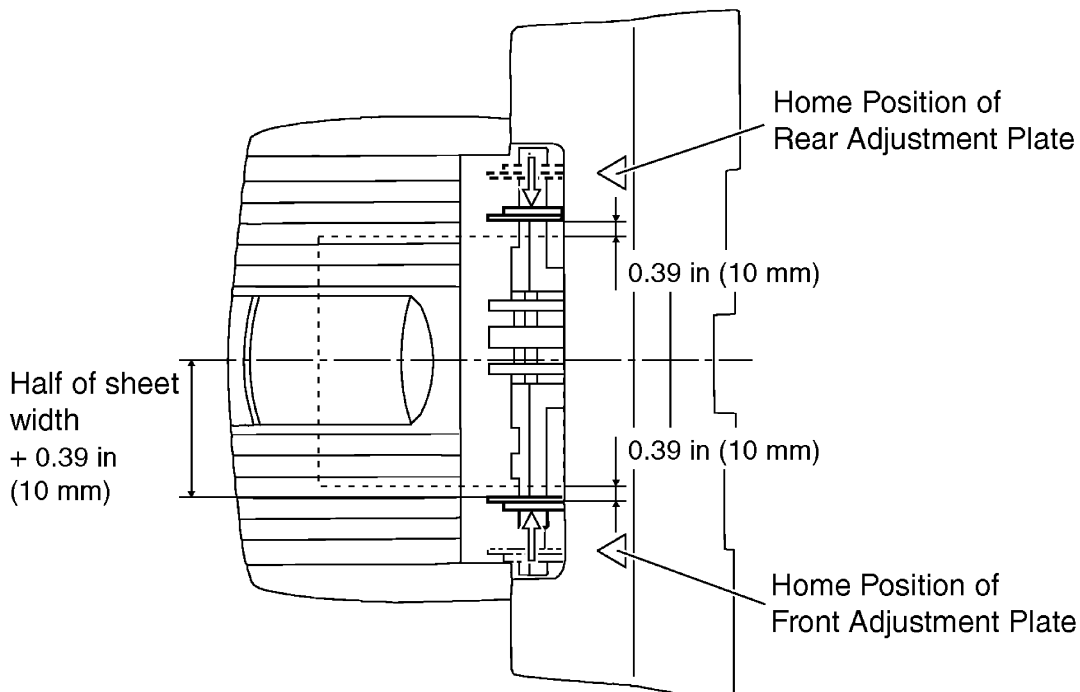
Operation of offset aligning is described below:

In non-sorting operation, the sheets are offset-aligned only toward the front end.

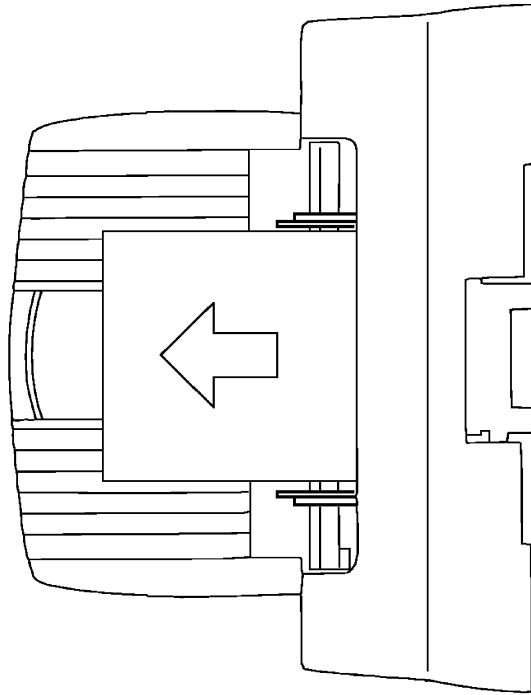
a. Turn on the copy start key on the Main Unit.

Data including the existence of sorting and sheet size, etc. is sent from the Main Unit.

b. The Front/Rear Adjustment Plates move from its home position to the position away from the center of Stack Tray by half the width of the sheet size 0.39 in (+ 10 mm) for both sides.

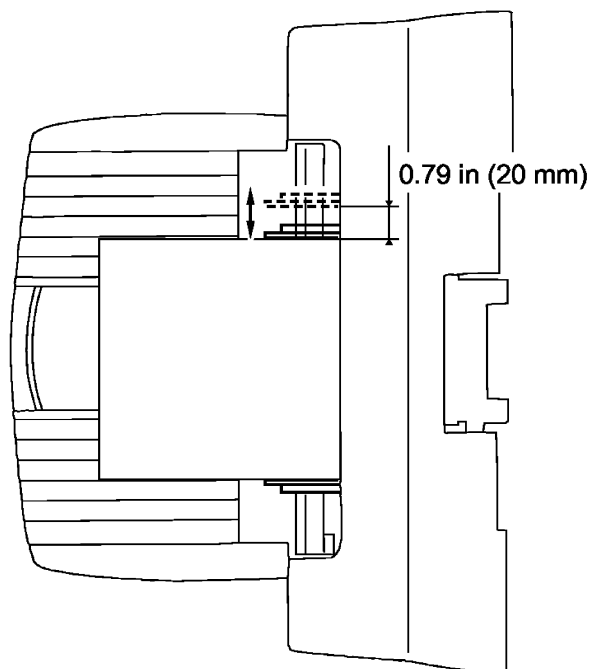


c. Load the Halfway-processing Tray with paper.

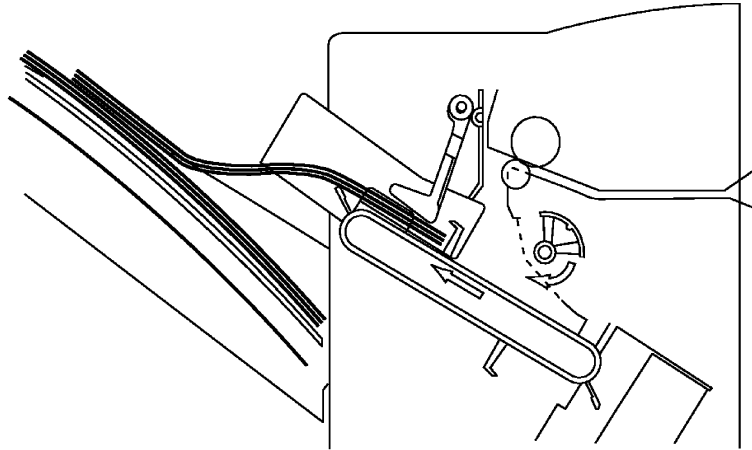


d. Move the Rear Adjustment Plate for aligning at the front, or move the Front Adjustment Plate for aligning at the rear.

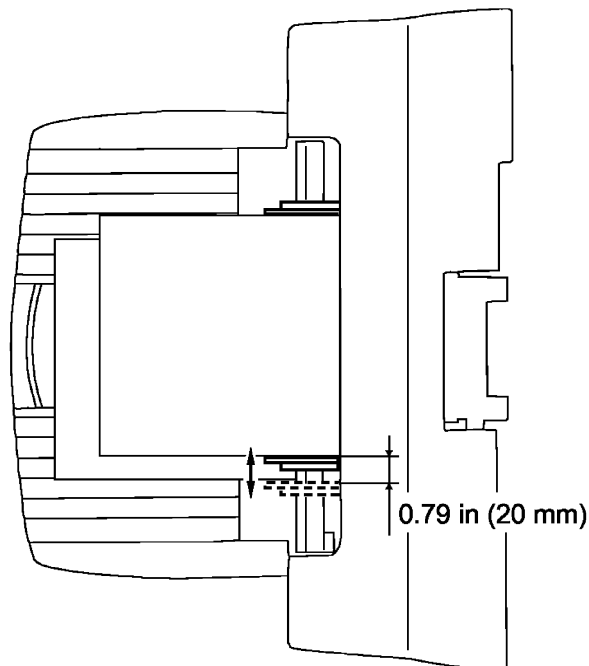
e. Front or Rear Adjustment Plate returns to the position in step 2 above.



- f. Repeat steps 3 through 5 for each sheet ejected from the Main Unit.
- g. Eject Paper Stack:
- (1) When the number of sheets is within the capacity of the Halfway-processing Tray:  
The sheets are ejected to the Stack Tray upon completion of processing each stack of copies.
  - (2) When the number of sheets exceeds the capacity of Halfway-processing Tray:  
The paper stack in the Halfway-processing Tray is ejected to the Stack Tray.  
The remaining sheets of paper are aligned at the same offset position and ejected to the Stack Tray.

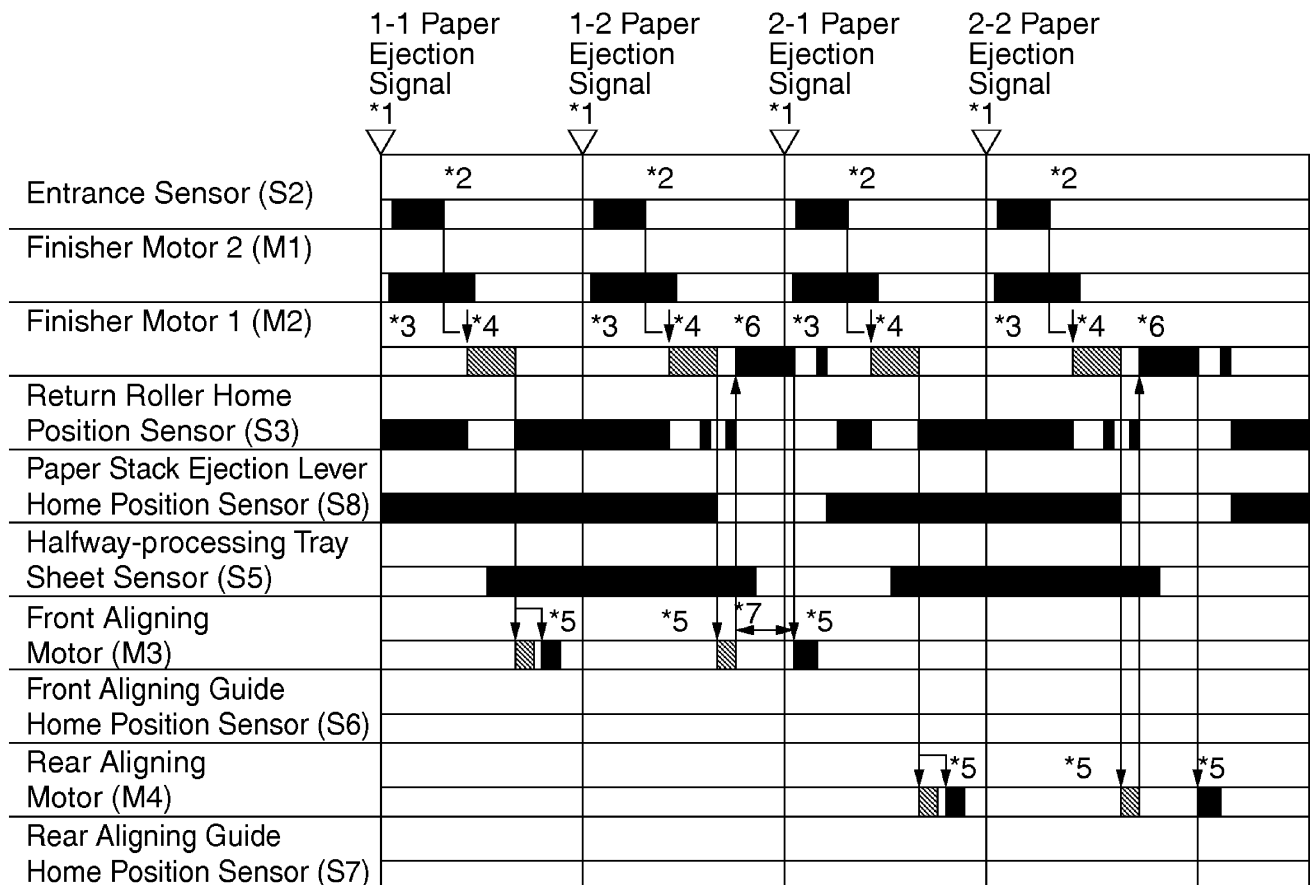


- h. Move up/down the Stack Tray to place the Stack Tray at a specified level.
- i. From then on, repeat steps 3 through 8 by changing the Adjustment Plates to move one after another.



## 6. Timing Chart

### a. Offset (2 originals - 2 copies)



 :Normal rotation
  :Reversed rotation

Finisher Motor 1: Normal rotation-> Paper ejection/  
 Reversed rotation -> Return

Front Aligning Motor: Normal rotation-> Forward movement/  
 Reversed rotation -> Backward movement

Rear Aligning Motor: Normal rotation-> Backward movement/  
 Reversed rotation -> Forward movement

Stack Tray Ascending/Descending Motor: Normal rotation -> Ascending/  
 Reversed rotation-> Descending

\*1: A-B paper ejection signal : Bth sheet in Ath copy ejection signal

\*2: Depends on paper length

\*3: 0.2 seconds

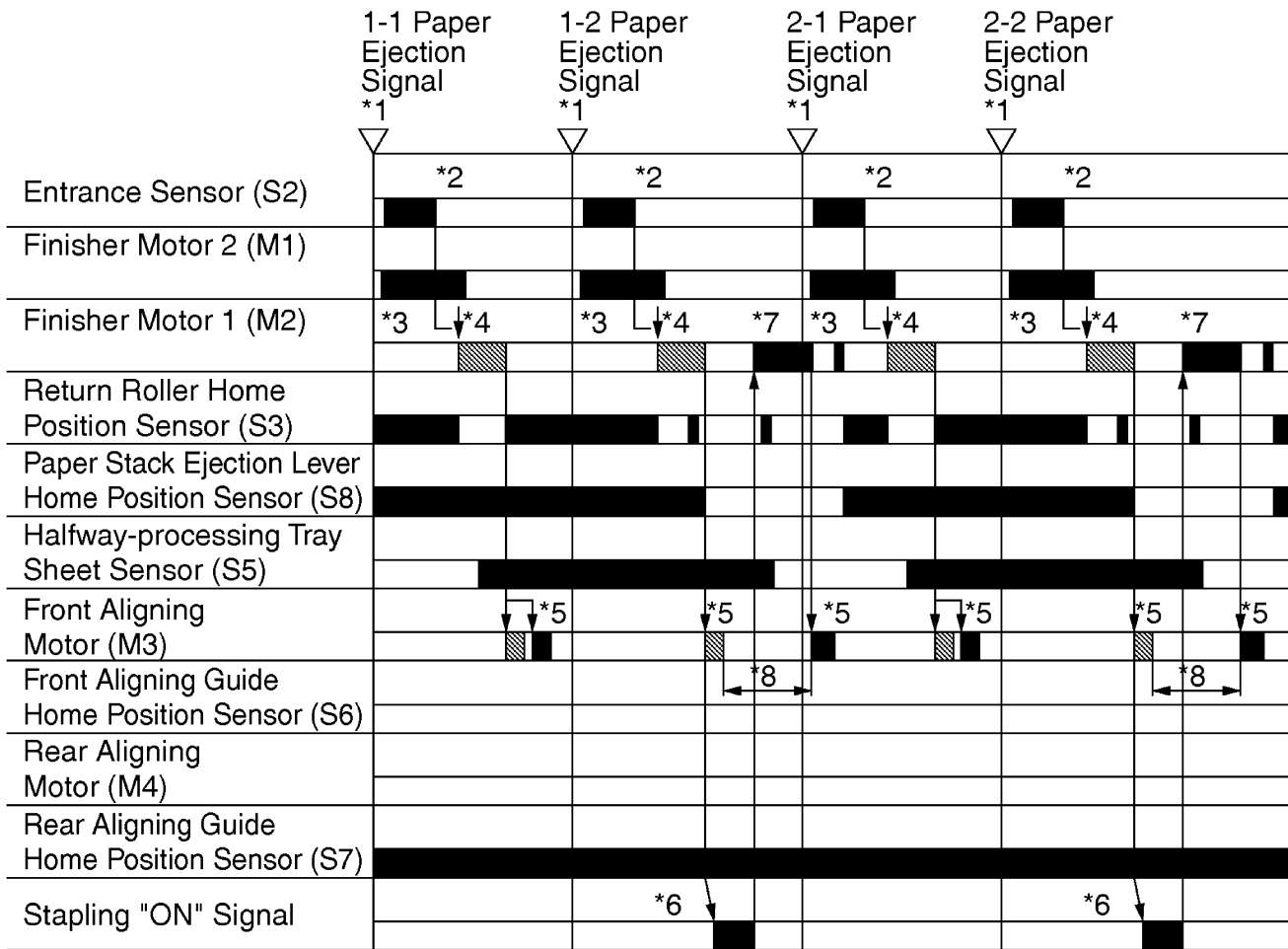
\*4: Approx. 0.35 seconds


\*5: Depends on paper length

\*6: Approx. 0.5 seconds

\*7: Holds down sheet until paper stack ejection completes.

## b. Stapling (2 originals - 2 copies)



 :Normal rotation
  :Reversed rotation

Finisher Motor 1: Normal rotation-> Paper ejection/

Reversed rotation -> Return

Front Aligning Motor: Normal rotation-> Forward movement/

Reversed rotation -> Backward movement

Rear Aligning Motor: Normal rotation-> Backward movement/

Reversed rotation -> Forward movement

Stack Tray Ascending/Descending Motor: Normal rotation -> Ascending/

Reversed rotation-> Descending

\*1: A-B paper ejection signal : Bth sheet in Ath copy ejection signal

\*2: Depends on paper length

\*3: 0.2 seconds

\*4: Approx. 0.35 seconds

\*5: Depends on paper length

\*6: Stapling "ON" signal is output 0.12 seconds after completion of controlling the aligning guides.

\*7: Approx. 0.5 seconds

\*8: Holds down sheet until stapling and paper stack ejection completes.

## 10.2.5. Stapling Operation

### 1. Overview

The Staple Unit of this model, which is fixed at the rear side, does not move or sway.

Stapling is performed at one position from underneath, before paper stack ejection. This unit does not provide functions for manual stapling or manually-fed stapling.

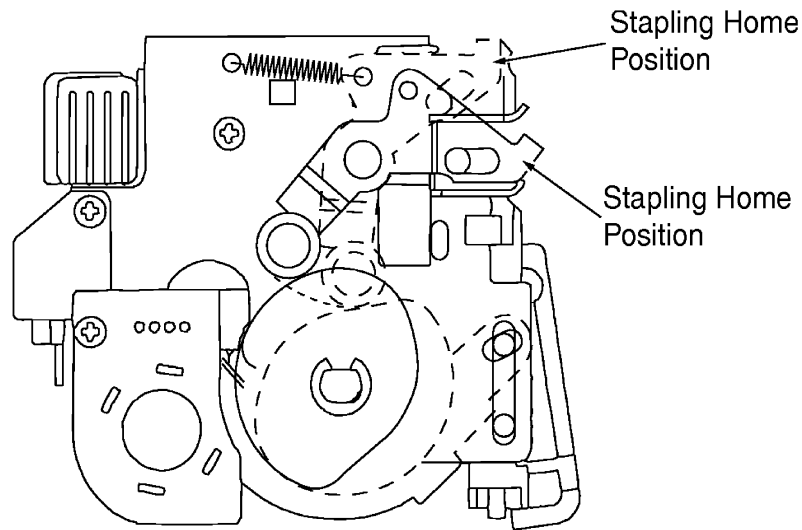


Figure 2-501

#### Note:

If the specified number of sheets exceeds a maximum number of sheets to be stapled, the sheet stack is ejected to the Stack Tray.

### 2. Return Rollers

The motors and sensors related to stapling are listed below:

SW : Micro Switch  
PI : Photo Interrupter

Symbol	Name	SW/PI	Function	Note
M6	Stapling Motor	-	Motor for stapling	In Stapling Unit
S15	Staple Head Sensor	SW	Detects a staple for stapling. If a staple does not exist, perform empty hammering to enable stapling.	In Stapling Unit
S16	Remaining Staples Sensor	PI	Detects remaining staples in Cartridge.	In Stapling Unit
S17	Stapling Home Position Sensor	PI	Detects home position for stapling	In Stapling Unit
S18	Stapler Cartridge Sensor	SW	A sensor for detecting Cartridge insertion in stapler unit	In Stapling Unit

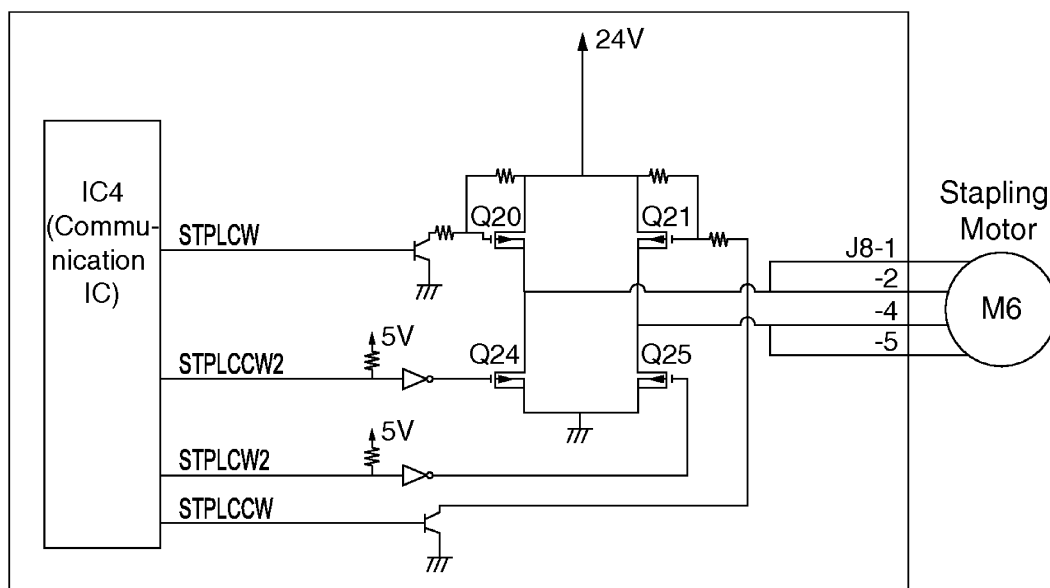


### 3. Stapling Motor Control

Overview of the driving circuit for stapling motor (M6) is described below:

A DC motor is used for the Stapling Motor.

The rotating direction of the motor is switched over by a signal sent from the Finisher Controller PC Board IC4 (communication IC) to the motor driving circuit.



## Finisher Controller PC Board

Direction	Output Signal
Normal rotation	STPLCW/STPCW2
Reversed rotation	STPLCCW/STPCCW2

## 10.2.6. Stack Tray Operation

### 1. Moving Up/Down Stack Tray

#### A. Overview

This unit is provided with a one-level Stack Tray. The sheets aligned, offset, and stapled in the Halfway-processing Tray are ejected to the tray.

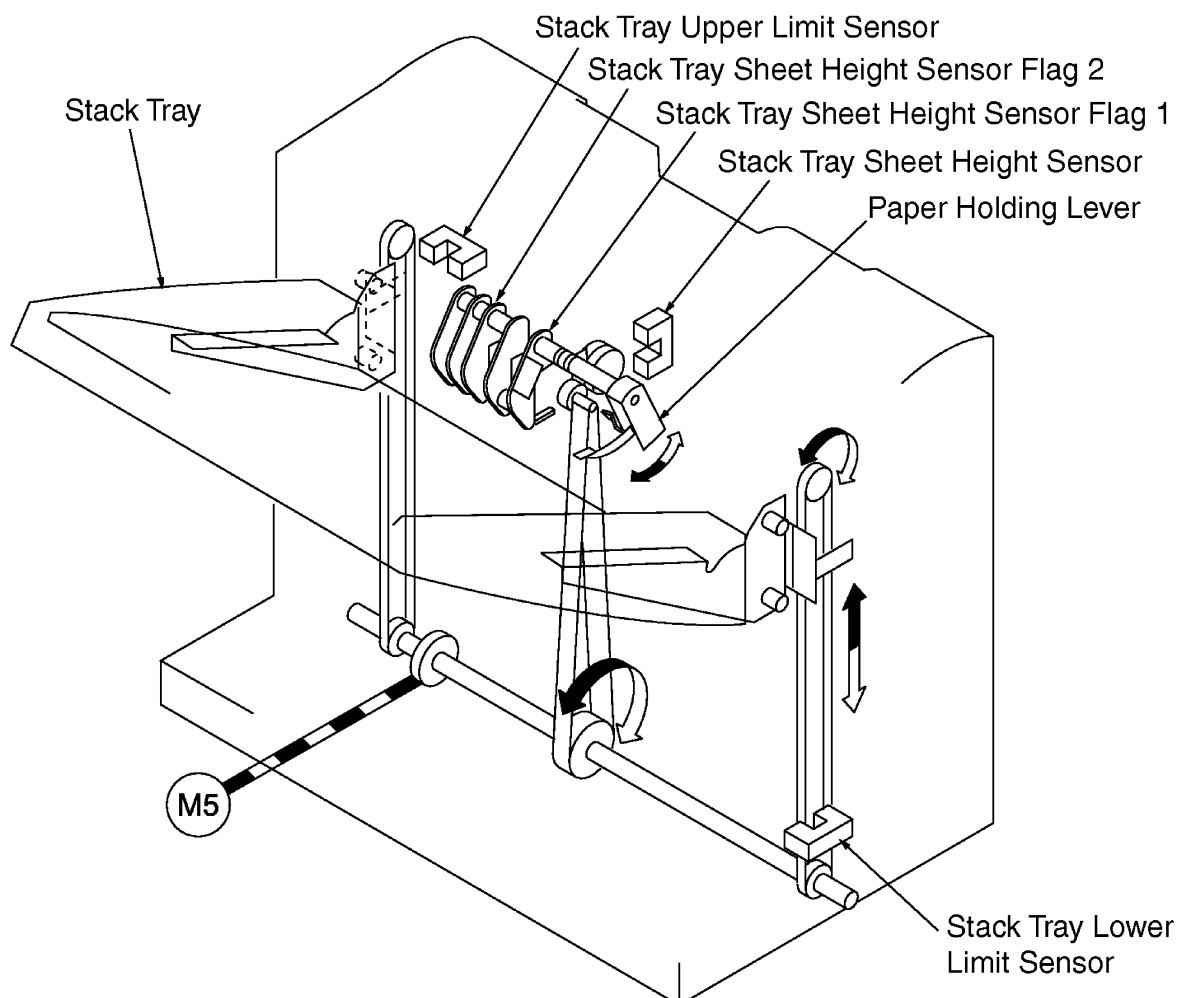
Upon ejection of a first sheet to the Stack Tray, the Stack Tray Sheet Sensor (S11) is turned on.

The Stack Tray is moved up/down by the Stack Tray movement motor (M5). If the Stack Tray is not at its home position when the power of the Main Unit is turned on, the tray is moved to its home position by the Stack Tray movement motor. Here, a home position of the Stack Tray is set at a level 0.49 in (12.5 mm) higher than a point where the Stack Tray Sheet Height Sensor detects the surface of the Stack Tray. Position of the Stack Tray is detected by measuring the distance from the Stack Tray Sheet Height Sensor (S10), using the number of clocks in the movement.

The upper limit of the Stack Tray position is detected by the Stack Tray Upper Limit Sensor (S13), and its lower limit is detected by the Lower Limit Sensor. If the Stack Tray Upper/Lower Limit Sensor is turned on, the Stack Tray movement motor is driven in a direction opposing to the detected sensor.

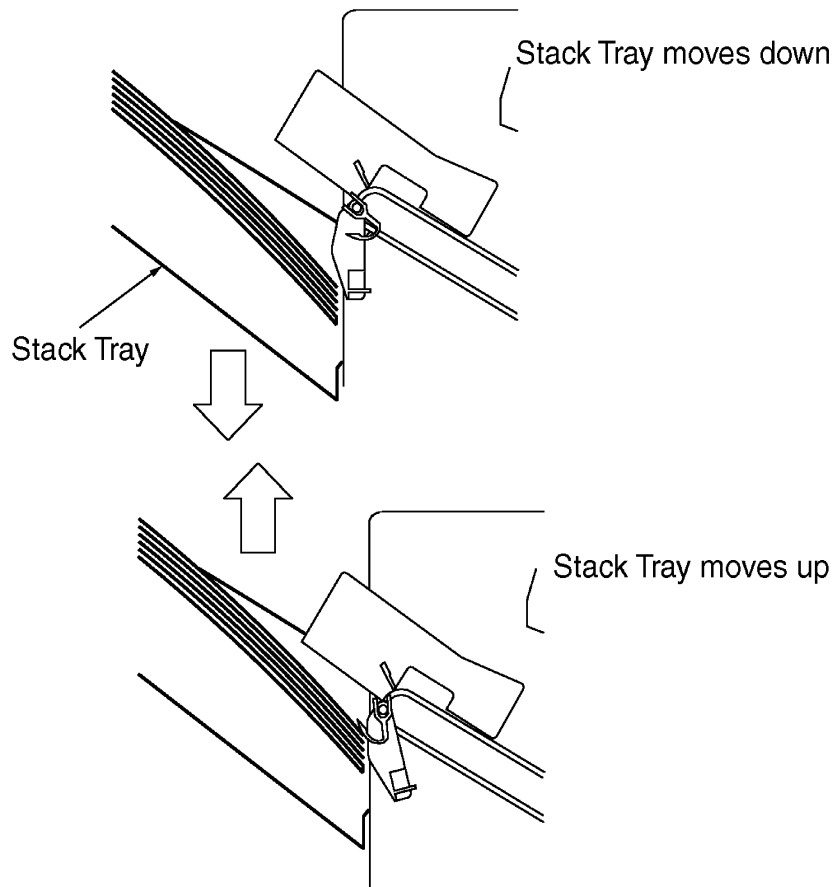
The loading limit of the Stack Tray, for unstapled sheets, is detected with the Sheet Height Sensor and the Lower Limit Sensor. For unstapled sheets, the limit is detected by the copy counter. Upon detecting the height limit or the number of copies, which is overloading, it is reported to the Main Unit.

	Loading Limit Detection Method
Unstapled	Detecting height of sheets
Stapled	Detecting height of sheet or counting the number of loaded copies



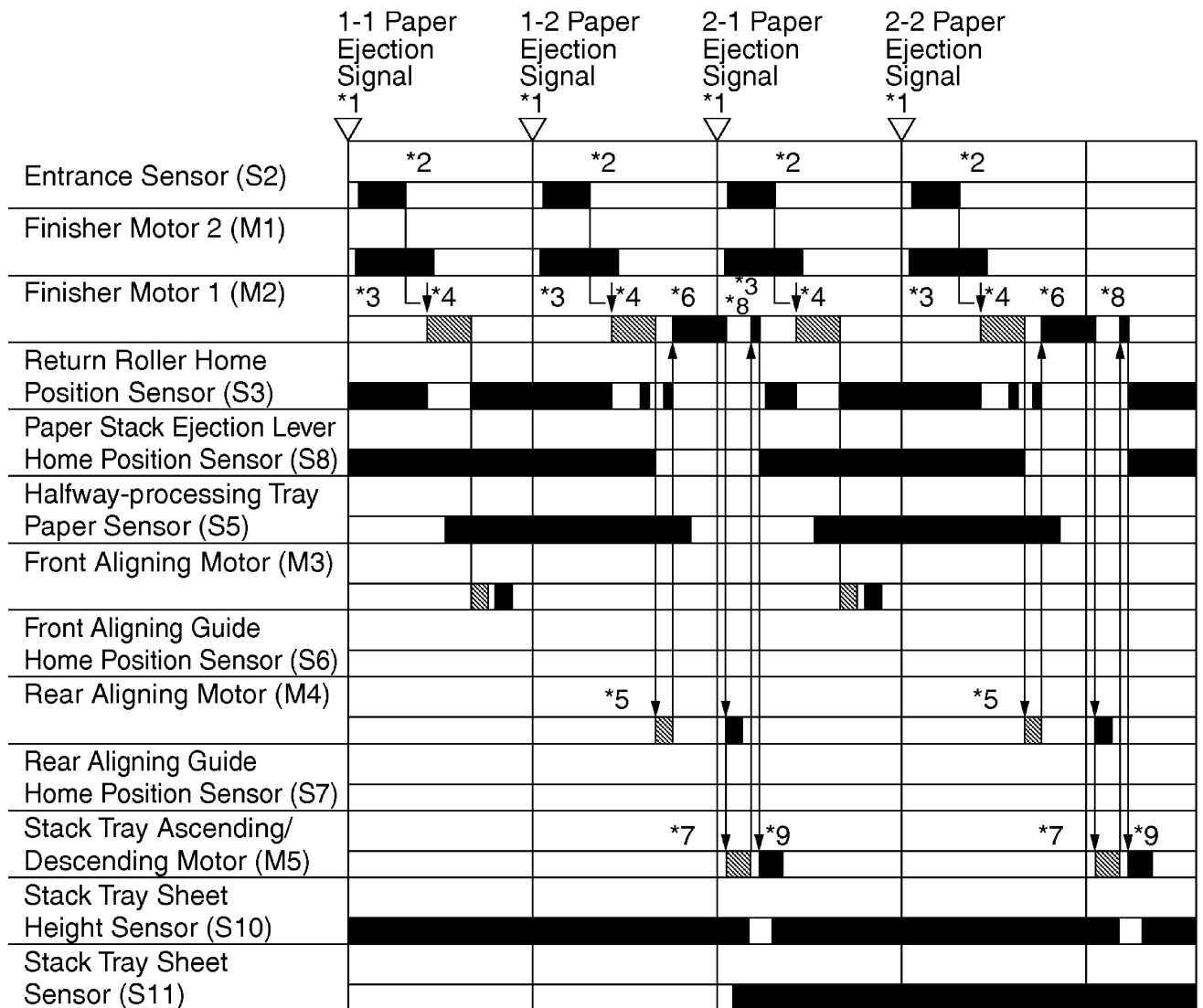
## B. Stack Tray Ascending / Descending Operation

The Stack Tray, after ejecting the Paper Stack, moves down until the Stack Tray Sheet Height Sensor (S10) is turned off. Then, after the Sheet Height Sensor (S10) detects the upper surface of sheets on the Stack Tray, the tray moves up by 0.49 in (12.5 mm).



### C. Timing Chart

The Stack Tray ascending/descending timing chart is shown below.



■ :Normal rotation      ▨ :Reversed rotation

Finisher Motor 1: Normal rotation-> Paper ejection/

Reversed rotation -> Return

Front Aligning Motor: Normal rotation-> Forward movement/

Reversed rotation -> Backward movement

Rear Aligning Motor: Normal rotation-> Backward movement/

Reversed rotation -> Forward movement

Stack Tray Ascending/Descending Motor:Normal rotation -> Ascending/

Reversed rotation-> Descending

\*1: A-B paper ejection signal : Bth sheet in Ath copy ejection signal

\*2: Depends on paper length

\*3: 0.2 seconds

\*4: Approx. 0.35 seconds

\*5: Depends on paper length

\*6: Approx. 0.5 seconds

\*7: Moves down until stack tray sheet height sensor is turned off.

\*8: Drives until paper stack ejection lever reaches home position.

\*9: Moves up by 0.49 in (12.5 mm) from a point where stack tray sheet sensor is turned on.

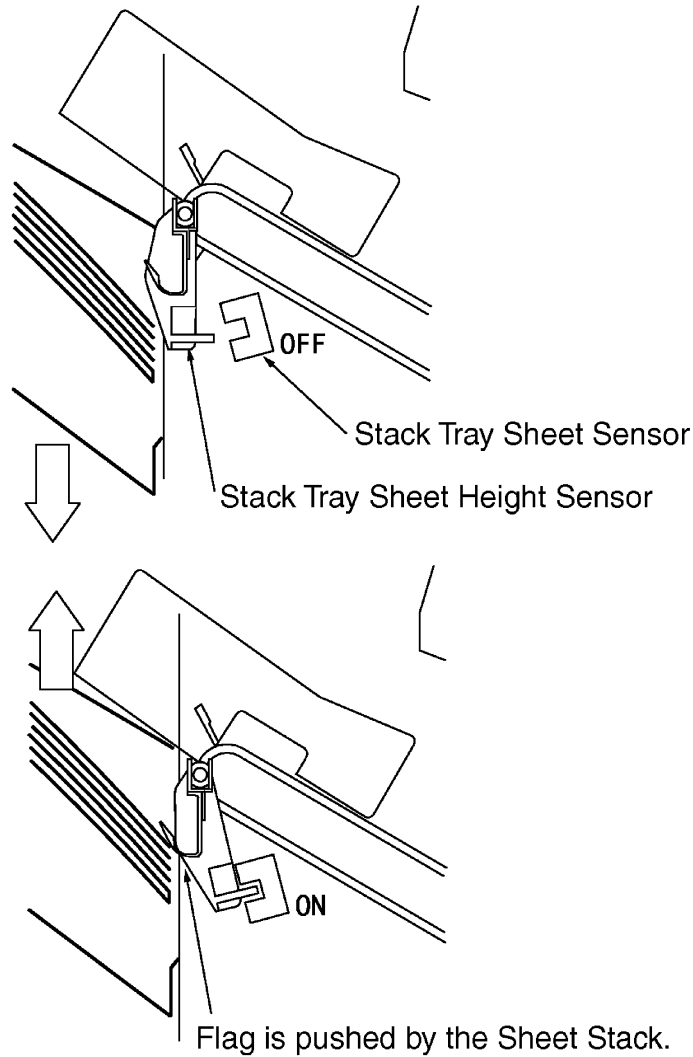
## 2. Detecting Stack Tray Sheet Height.

In all operation modes, paper loading on the Stack Tray is detected with the height of sheets loaded on the Stack Tray. The height of the sheets is the Stack Tray Sheet Height Sensor (S10).

The Stack Tray, after ejecting the sheets, moves down until the Stack Tray Sheet Height Sensor (S10) does not detect the sheet and then stops.

Then, the Stack Tray Sheet Height Sensor (S10) detects the surface of a sheet on the Stack Tray, and the Stack Tray moves up by 0.49 in (12.5 mm).

If the Stack Tray Lower Limit Sensor detects the Stack Tray while the Stack Tray Sheet Height Sensor is detecting the surface of a sheet, the Finisher Controller PC Board reports overloading of the tray to the Main Unit. After the sheets on the Stack Tray are removed, the Stack Tray moves up to its home position. Then, ejection of the next sheets is enabled.



### 3. Counting the Number of Copies Loaded in the Stack Tray.

The loading capacity of the Stack Tray is summarized in the table below.

When stapling the sheets, the loading capacity of the Stack Tray is detected by counting the number of copies loaded onto the Stack Tray in addition to detecting the height of the sheets. One copy of a sheet stack is counted as "1." Upon counting a total of 30 copies, overloading on the Stack Tray is reported to the Main Unit.

The controller on the Main Unit displays an instruction for removing the sheet stacks.

For continuing the copy operation after the above action, the unit displays instruction for removing sheets on controller if sheets are loaded onto the Stack Tray. Starting copy operation here without removing the sheets does not guarantee correct aligning of sheets or stapling performances.

Even if the sheets are not removed, counting of the sheet stacks is cleared upon turning on the copy start key, and the number of copies is counted from the beginning.

	Stack Tray Loading Capacity
Small Size	30 (Maximum of 30-sheet stack)
Middle Size	30 (Maximum of 20-sheet stack)
Large Size	30 (Maximum of 15-sheet stack)

### 4. Stack Tray Sheet Holding Operation.

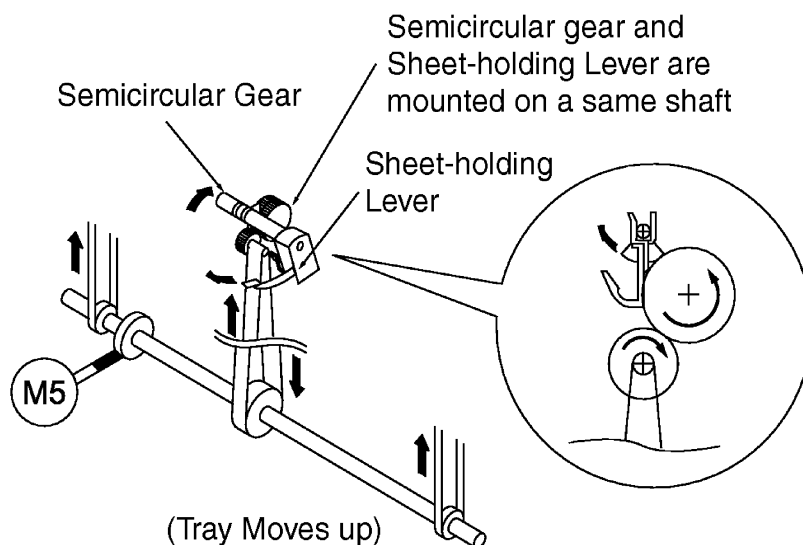
The unit is provided with a sheet-holding lever beside the Stack Tray Sheet Height Sensor. The sheet-holding lever prevents detection errors of sheet height caused by curling of sheet stack, etc.

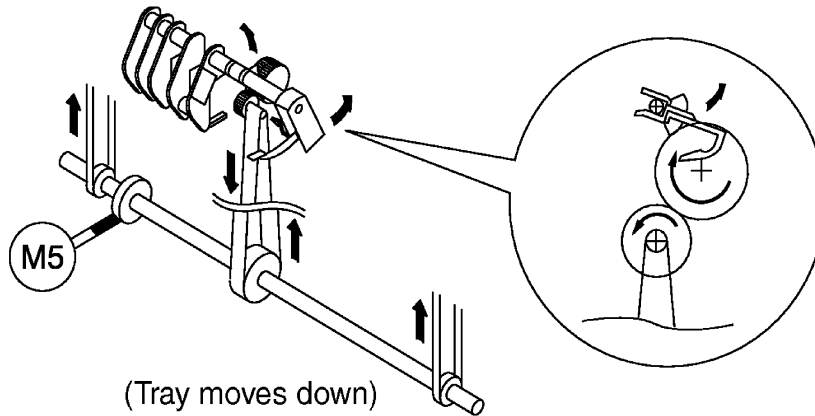
The sheet holding lever is moved by the Stack Tray Ascending/Descending Motor (M5).

Operation of the sheet-holding lever is as follows:

- When a sheet stack is ejected to the Stack Tray, the sheet stack is loaded onto the sheet-holding lever.
- After a sheet stack is ejected to the Stack Tray, the Stack Tray moves down until the Stack Tray Sheet Height Sensor (S10) is turned off and stops.
- The sheet-holding lever hides in the finisher, and moves away from under the sheets.
- Then the Stack Tray moves up by 0.49 in (12.5 mm), after the Stack Tray Sheet Height Sensor (S10) detects the surface of the sheets.
- At this point, the sheet-holding lever hidden in the finisher appears above the sheets and holds down the sheets on the Stack Tray.

The sheet-holding lever holds down the sheets by the steps described above.





## 5. Tray Ascending/Descending Motor Control.

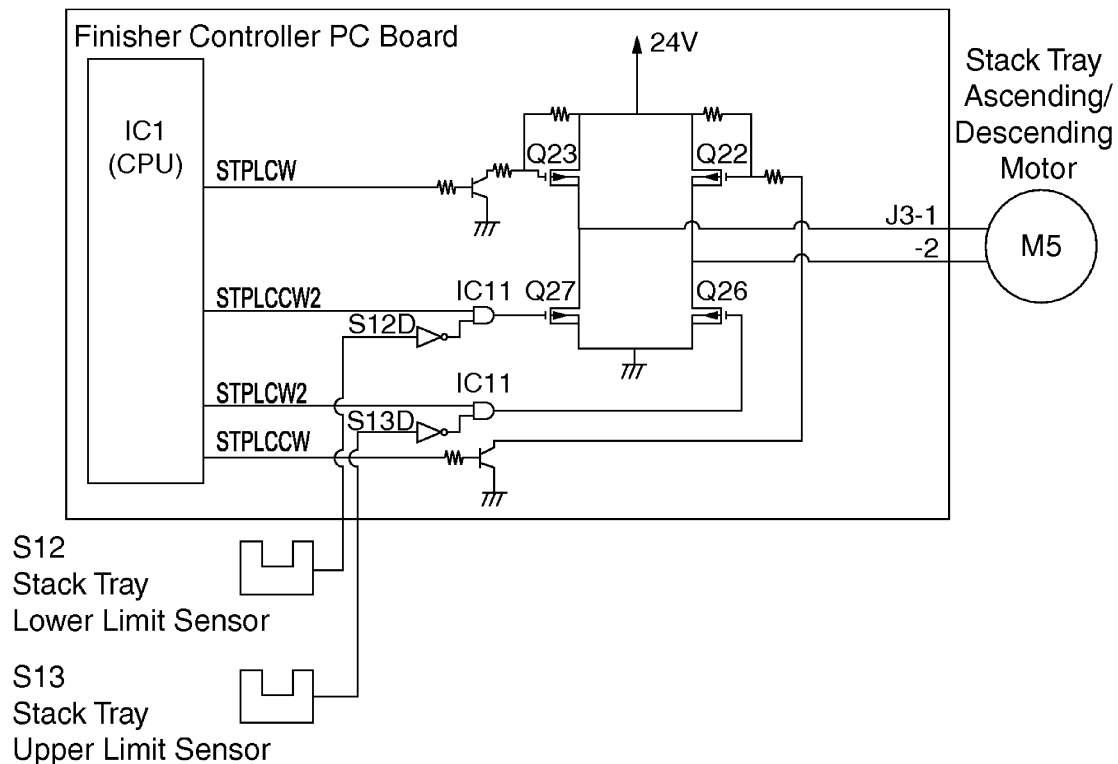
### a. Overview

A block diagram of the drive circuit for the Tray Ascending/Descending Motor (M5).

A DC motor is used for Tray Ascending/Descending Motor.

Rotating direction of the motor is switched over by a signal sent from the Finisher Controller PC Board IC1 (CPU) to the motor driving circuit.

When the Stack Tray reaches the Stack Tray Upper Limit Sensor (S13) and the sensor sends a signal (S13D) to IC11, STKTCW breaks and the motor stops further rotation in normal direction. Similarly, when the Stack Tray reaches the Stack Tray Lower Limit Sensor (S12) and the sensor sends a signal (S12D) to IC11, STKTCCW breaks and the motor stops further rotation in reverse direction.



Direction	Output Signal
Normal rotation	STKTCW/STKTCW2
Reversed rotation	STKTCCW/STKTCCW2

## 10.2.7. Detecting Jam

### A. Overview

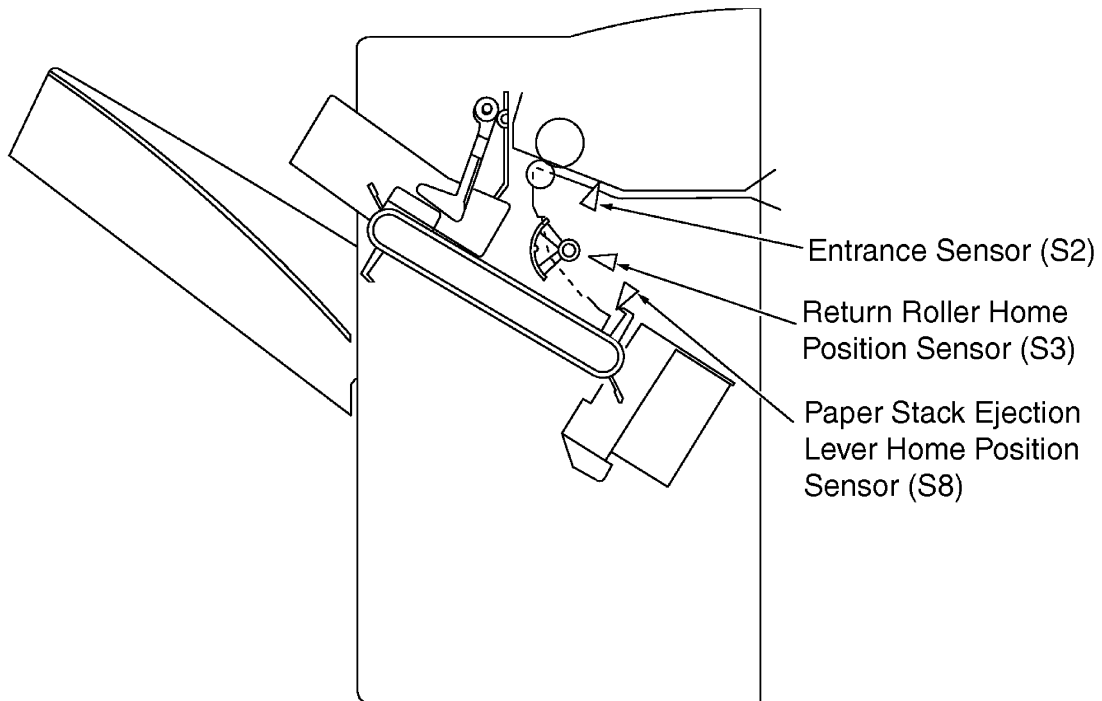
The unit is provided with the sensors listed below for detecting presence/absence of sheets, and normal transportation of sheets:

- Entrance sensor
- Return Roller Home Position Sensor (S3)
- Paper Feed Lever Home Position Sensor (S8)

Also, for detecting the normal operation of stapling, the sensor below is provided:

- Stapling Home Position Sensor (S17)

Jamming is checked at timing memorized in CPU on the Finisher Controller PC Board. Upon detection of jamming, paper ejection is stopped and jamming is indicated on the controller section.



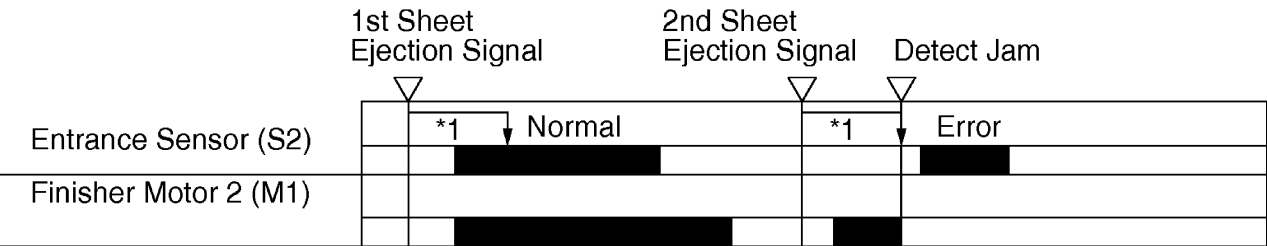


B. Sheet Transportation Jam

Sheet Transportation Jam is described below:

1. Entrance Sensor Delay Jam

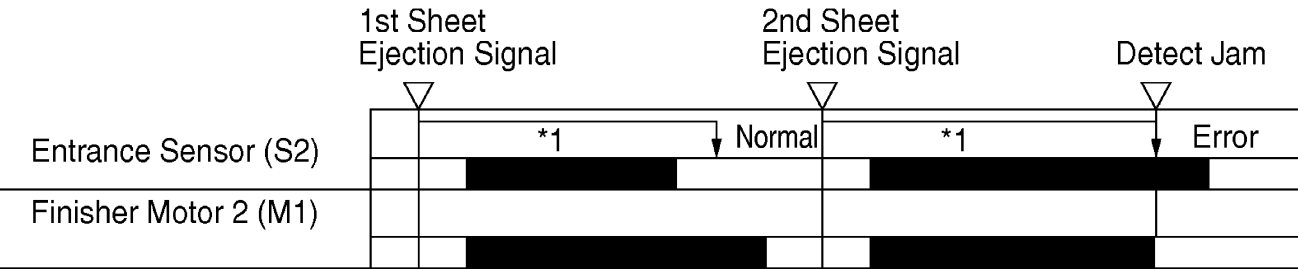
The jam is detected if the Entrance Sensor (S2) of the finisher fails to detect a sheet 1.5 seconds after the Finisher Controller PC Board detects the sheet ejection signal from the Main Unit.



\*1: 1.5 seconds

2. Entrance Sensor Stuck Jam

A jam is detected if the Entrance Sensor (S2) detects a sheet, and the sheet is still detected even after the sheet should have been carried for a distance long enough for ejecting the sheet (sheet size plus 26 mm) and 24 mm more.



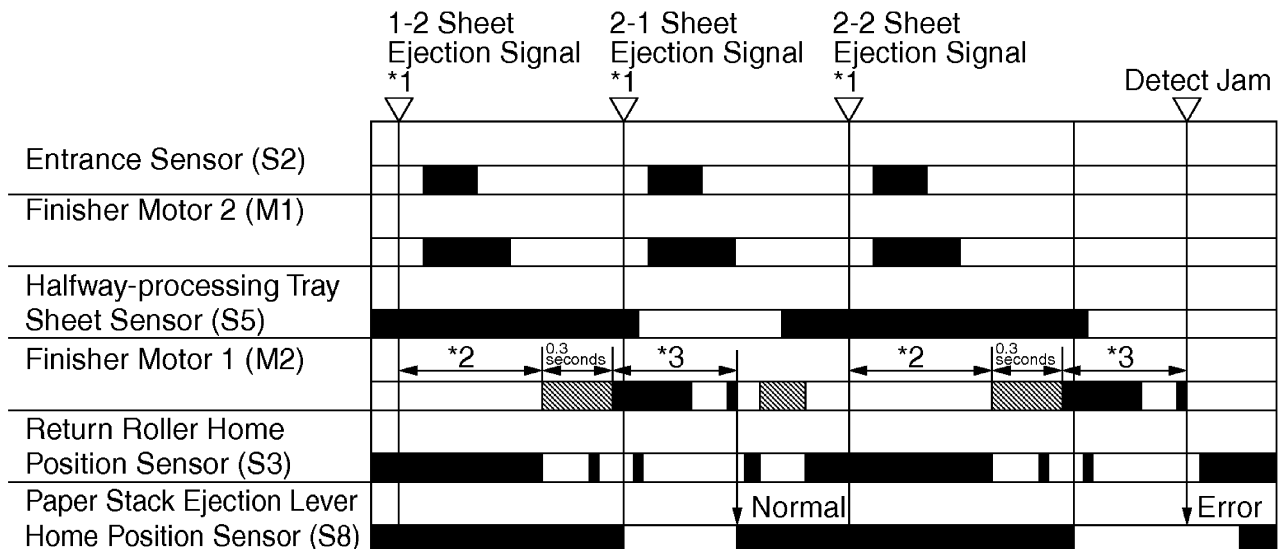
\*1: Sheet length +1.97 in (50 mm)

### 3. Paper Stack Ejection Jam

Upon moving the Paper Feed Lever with the Finisher Motor 1 (M2), the jam is detected if the Paper Feed Lever does not reach the Paper Feed Lever Home Position Sensor (S8), despite the lever moved sufficiently. The jam is detected also if the Paper Feed Lever does not move away from the Paper Feed Lever Home Position Sensor, despite the lever should have been moved sufficiently.

The jam is detected during transportation of the sheets. If the jam is detected upon the initialization process, it is processed as an error.

#### • If the lever does not reach the home position



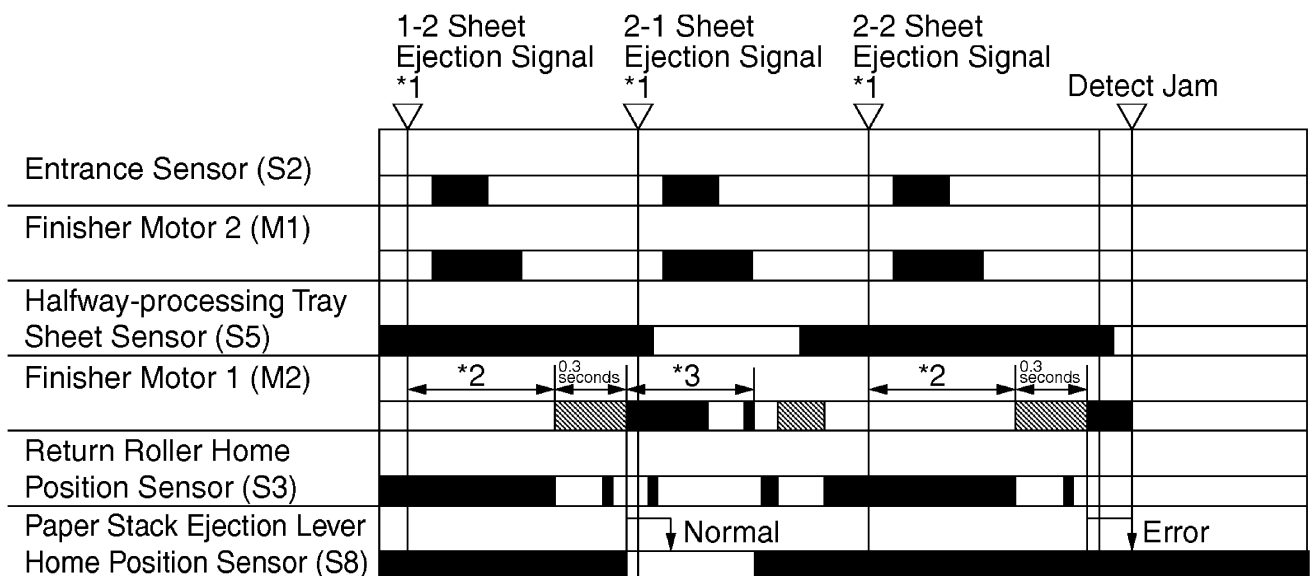
■ :Normal rotation (paper stack ejection)    ▨ :Reversed rotation (returning)

\*1: A-B paper ejection signal : Bth sheet in Ath copy ejection signal

\*2: Depends on paper length

\*3: Movement that paper stack ejection lever moves away from home position sensor.

#### • If the lever does not move away from home position



■ :Normal rotation (paper stack ejection)    ▨ :Reversed rotation (returning)

\*1: A-B paper ejection signal : Bth sheet in Ath copy ejection signal

\*2: Depends on the paper length

\*3: Movement so that the paper stack ejection lever moves away from home position

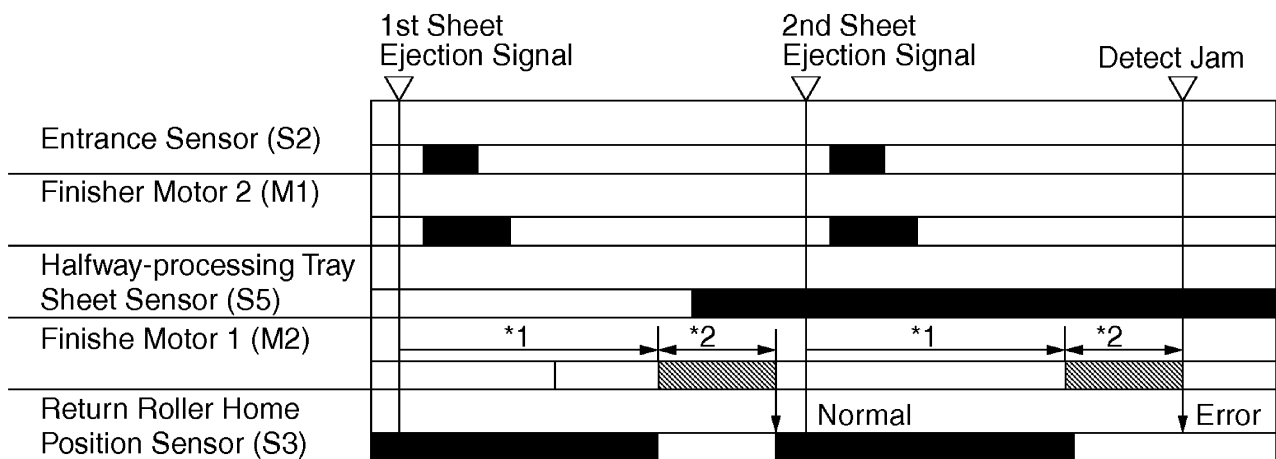
#### 4. Stack Returning Jam

Upon moving the Return Roller with the Finisher Motor 1 (M2), the jam is detected if the Return Roller does not reach the Return Roller Home Position Sensor (S3) despite the lever should have been moved sufficiently. The jam is detected also if the roller does not move away from the Return Roller

Home Position Sensor despite the lever should have been moved sufficiently.

The jam is detected during transportation of sheets. If the jam is detected upon initialization process, it is processed as an error.

##### • If the roller does not reach home position

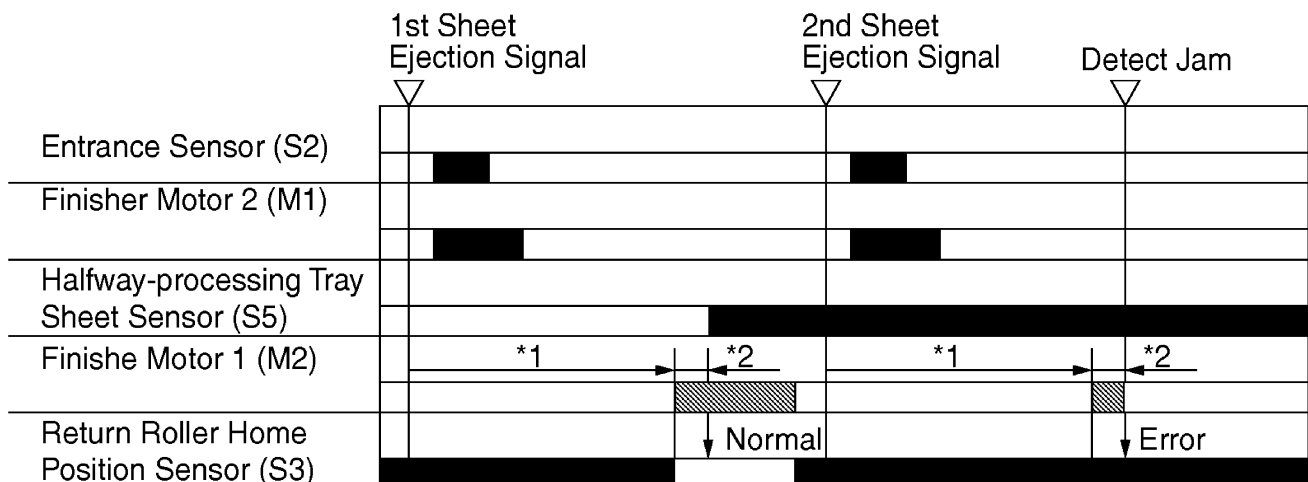


■ :Normal rotation (paper stack ejection)    ▨ :Reversed rotation (returning)

\*1: Depends on paper length

\*2: Movement that return roller moves away from home position

##### • If the roller does not move away from home position



■ :Normal rotation (paper stack ejection)    ▨ :Reversed rotation (returning)

## C. Stapler Jam

Stapler jam is described below:

### 1. Staple Jam in Stapler.

A Staple jam is detected under the following conditions:

After the start of a stapling operation, the Stapler left the Stapling Home Position Sensor (S17). However, the Stapler does not reach the Stapling Home Position Sensor (S17) afterwards. The stapler has reached the Stapling Home Position Sensor by reverse operation within 0.5 seconds.

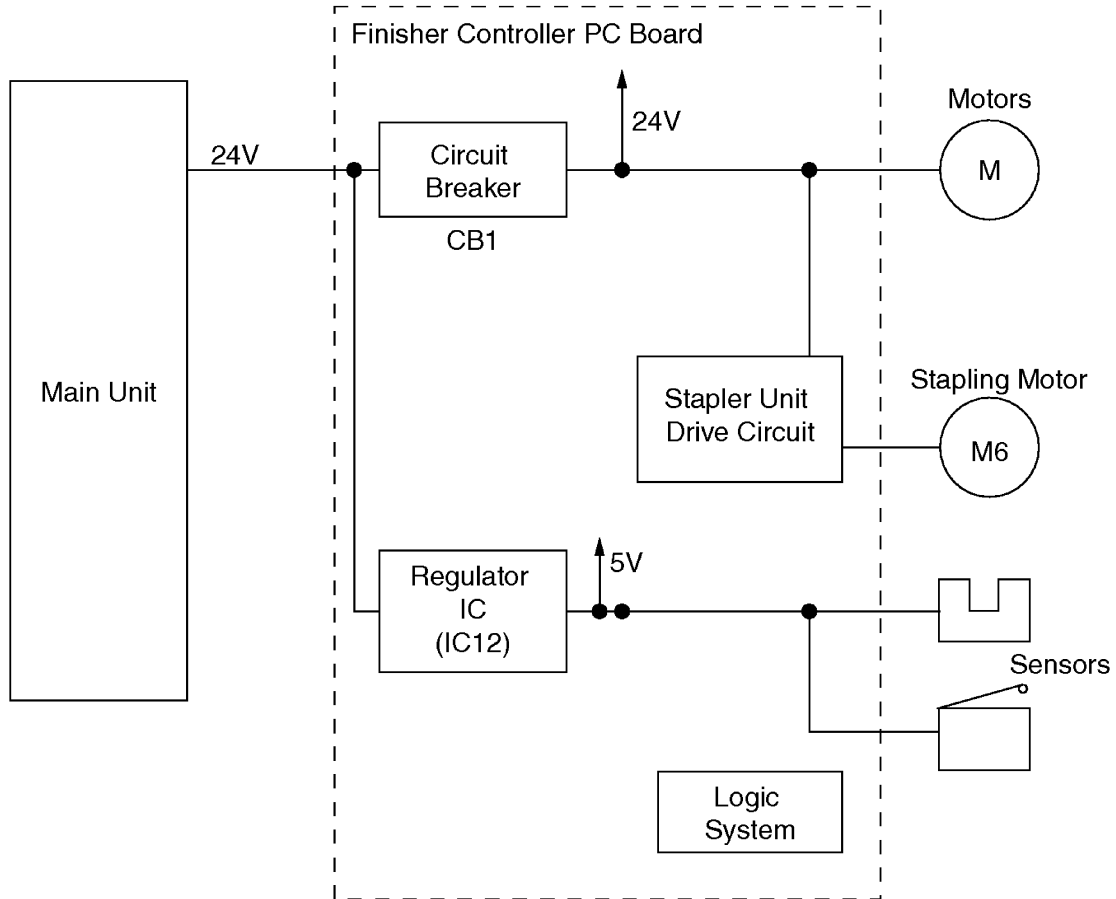


## 10.2.8. Electrical Systems

### 1. Overview

Upon turning on the power of the Main Unit, a 24-VDC power is supplied from the Main Unit to the Finisher Controller PC Board. The regulator IC (IC12) on the Finisher Controller PC Board generates 5-VDC power. The 5-VDC power is used for sensors and ICs on the board.

A block diagram of the power supply system is provided below:



### 2. Protection Functions

For overcurrent protection, a circuit breaker (CB1) is provided on motor-driving 24-VDC power.

### 10.3. Maintenance

This chapter describes the mechanical features of the system, operations, and procedures for disassembling/assembling the unit.

Keep the following points in mind when disassembling/assembling the unit:

1. Be sure to disconnect the power plug before disassembling/assembling the unit.
2. For assembling, reverse the disassembling procedures except as noted.
3. When assembling, be sure to use the correct Screws (length and diameter) in the correct positions.
4. For preventing static electricity, a chrysanthemum-shaped washer is used at one of the Screws for mounting the metal cover. Be sure to use the washer when assembling.
5. Do not operate the unit with any part not mounted.

#### 10.3.1. Maintenance and Inspection

##### A. Regular Maintenance Parts

The unit does not use any part that should be replaced regularly.

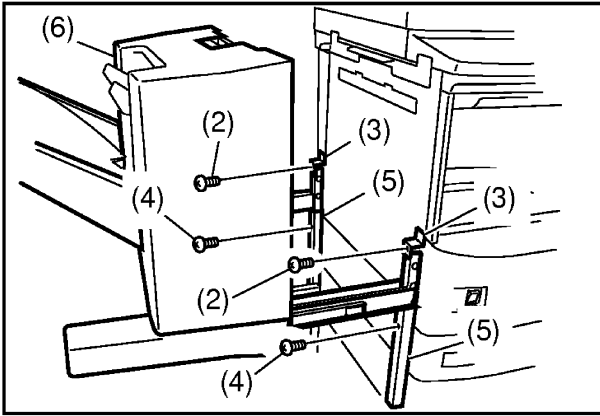
##### B. Replacement Cycle of Consumables

No.	Part Name	Part Number	Amount	Durability	Remarks
1	Stapling unit	DZHP003920	1	200 thousand operations	

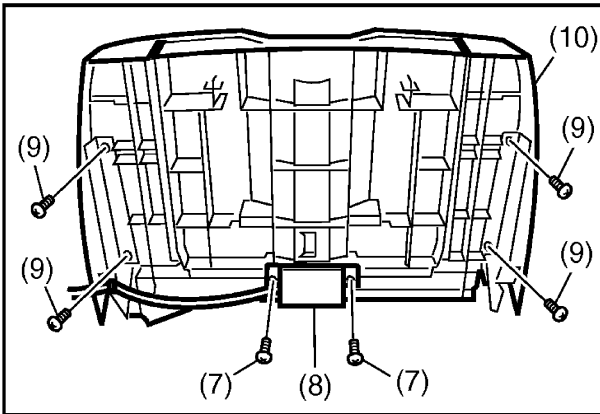
##### C. Regular Maintenance

Return roller (cleaning/for each 120 thousand operations).

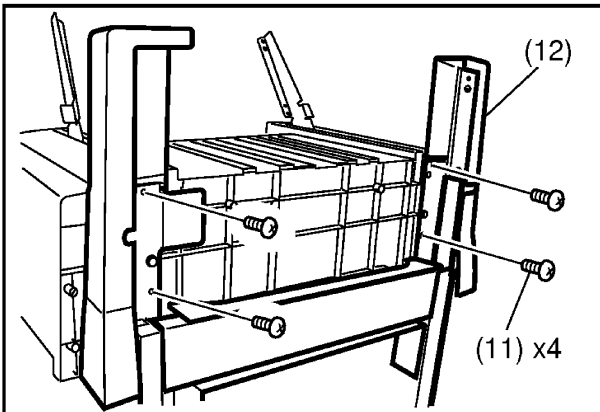
### 10.3.2. Exterior Cover



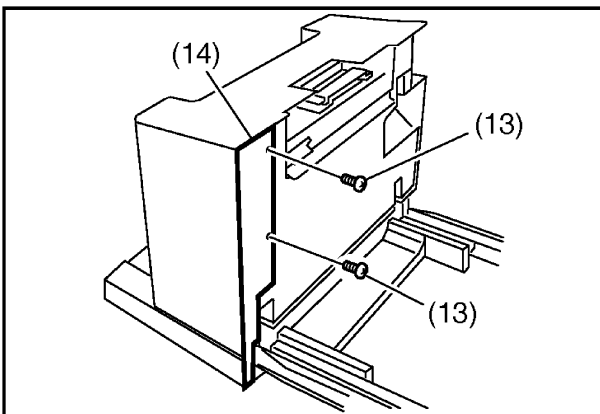
- (1) Pull out the **Finisher Frame**.
- (2) 2 **Screws** (2016).
- (3) Remove 2 **Finisher Locking Mount Cap** (2006).
- (4) 2 **Screws** (2016).
- (5) Remove 2 **Finisher Lower Mount Cover** (2005).
- (6) Remove the **Finisher Frame**.



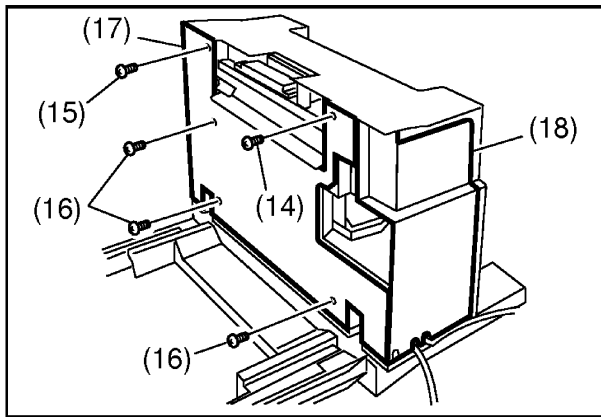
- (7) 2 **Screws** (2018).
- (8) Remove the **Sensor Cover** (2119).
- (9) 4 **Screws** (2018).
- (10) Remove the **Stack Tray** (2111).



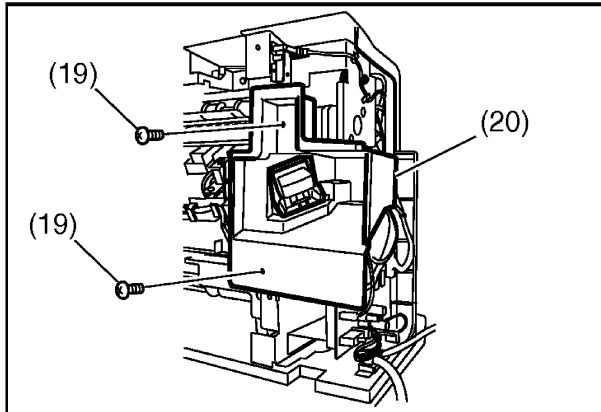
- (11) 4 **Screws** (2017).
- (12) Remove the **Mount Cover Assembly**.



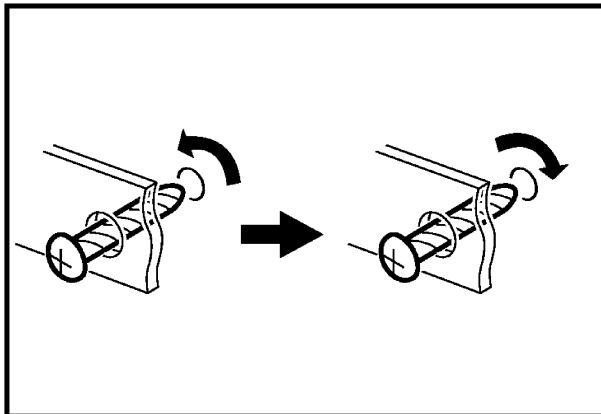
- (13) 2 **Silver Screws** (B1).
- (14) Remove the **Finisher Protective Bracket** (2063).



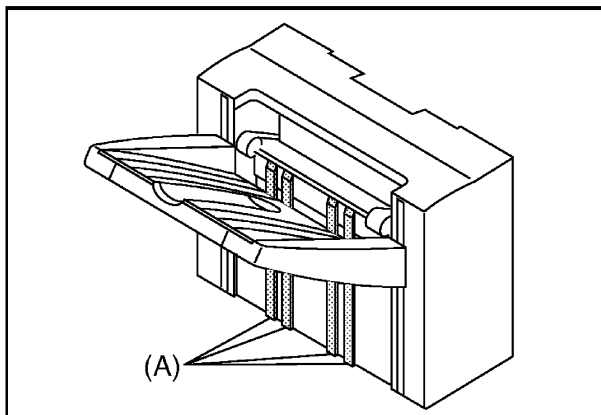
- (15) 1 **Screw** (2021).
- (16) 4 **Screws** (2016).
- (17) Remove the **Right Panel** (2104).
- (18) Remove the **Rear Panel** (2105).



- (19) 2 **Screws** (2016).
- (20) Remove the **Staple Cover** (2106).

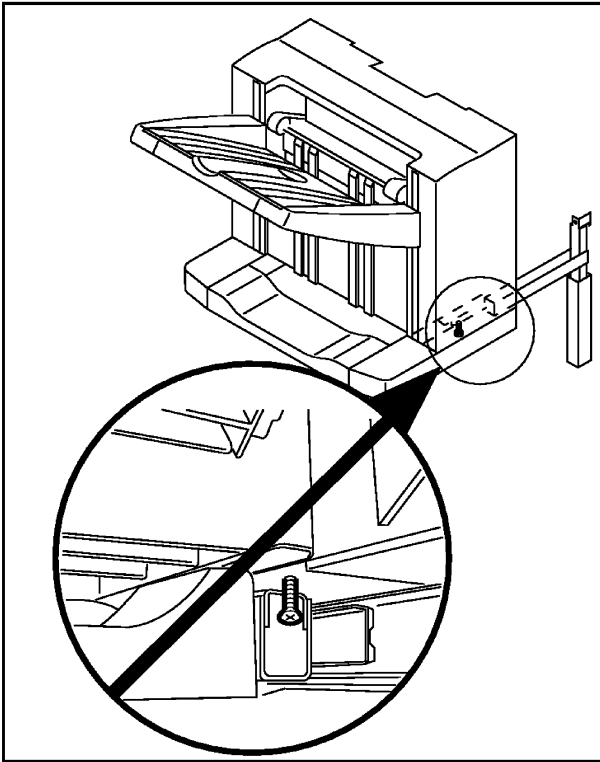


- Note 1:**
1. Insert tip of the Screw to the Screw hold and turn the Screw counter-clockwise.
  2. A click is felt when the thread of the Screw fits Screw hole.
  3. Turn the Screw clockwise.



- Note 2:**
- Pay attention not to leave scratches or scores on the rails of the loading wall (A). Scratches or scores may affect the loading capacity.

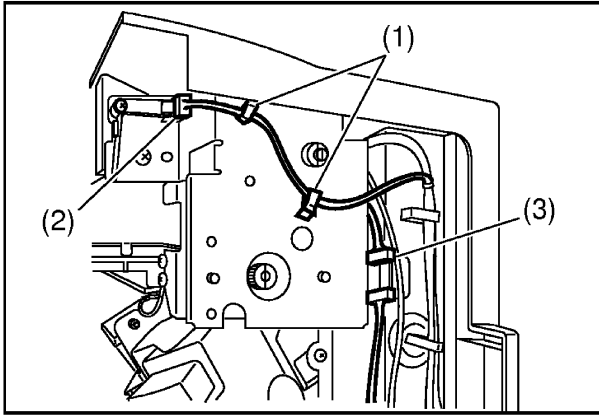




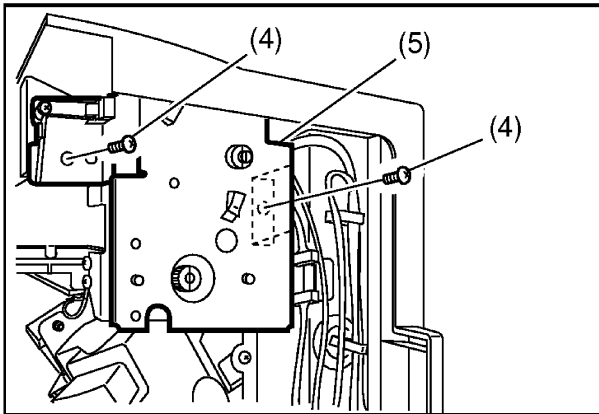
**Note 3:**

Stack Tray Stopper Screw must be tightened completely through the plate (do not leave it loosened). A loose Screw may interfere with sliding of the rail.

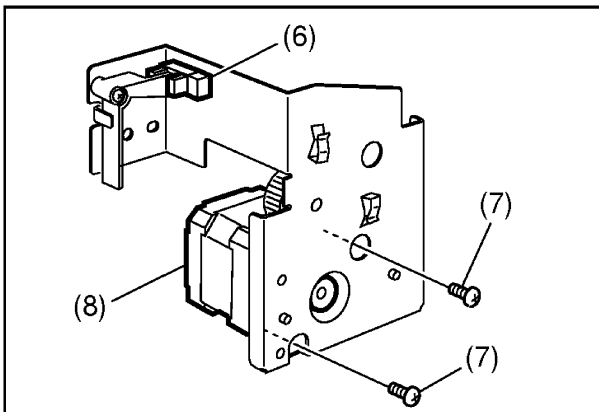
### 10.3.3. Transportation Motor



- (1) Remove the **Harness** from 2 Clamps.
- (2) Disconnect the **Sensor Connector**.
- (3) Disconnect the **Motor Connector**.

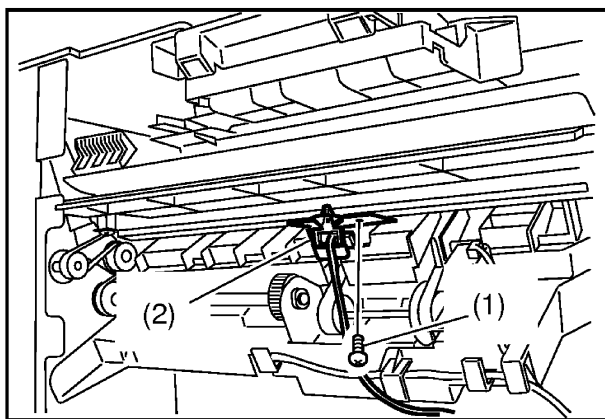


- (4) 2 **Screws** (2030).
- (5) Remove the **Gear Bracket** (2421) Assembly.

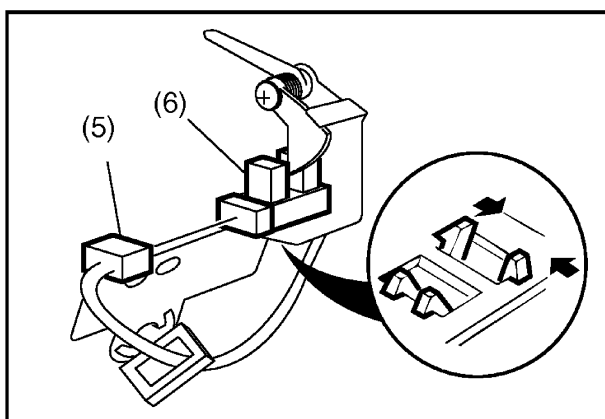


- (6) Remove the **Sensor** (2114).
- (7) 2 **Screws** (2038).
- (8) Remove the **Finisher 2 Motor** (2417).

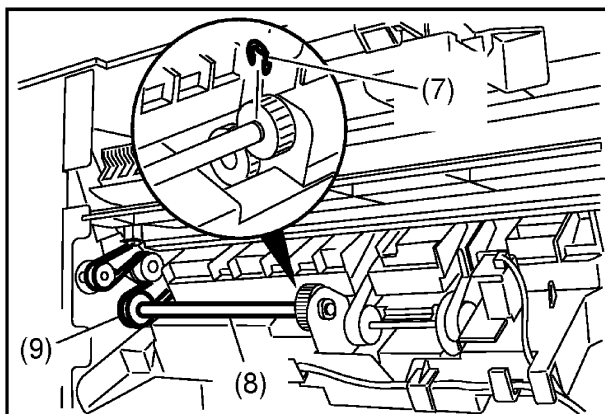
#### 10.3.4. Adjustment Base



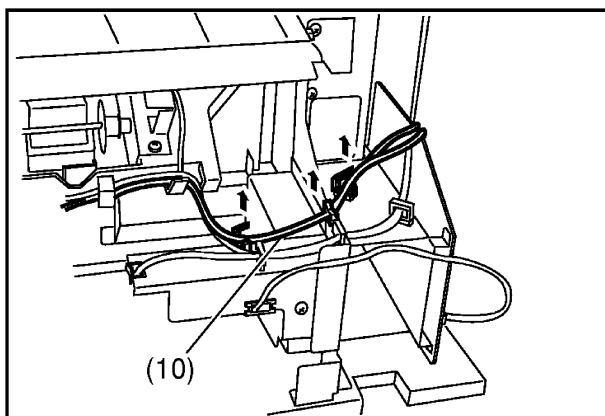
- (1) Remove the **Right Plate**, **Left Plate** and the **Staple Cover**. (See 10.3.2.)
- (2) Remove the **Stapler**. (See 10.3.8.)
- (3) 1 **Screw** (2030).
- (4) Remove the **Sensor Holder** (2220).



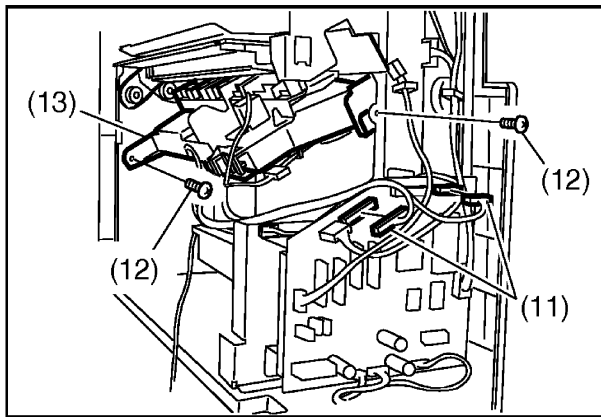
- (5) Disconnect the **Sensor Connector**.
- (6) Remove the **Sensor** (2114).



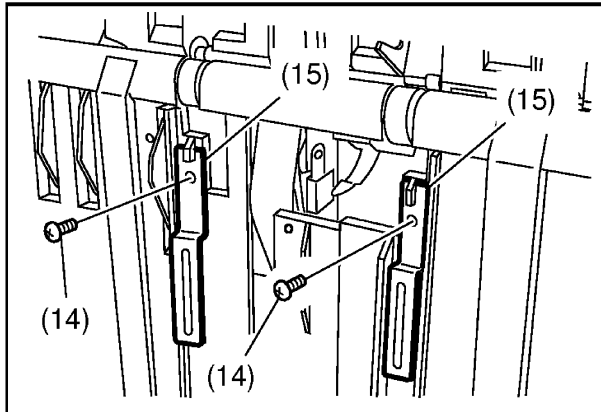
- (7) Remove the **E-Clip** (2051).
- (8) Remove the **Input Shaft** (2342).
- (9) Remove the **Timing Belt** (2332).



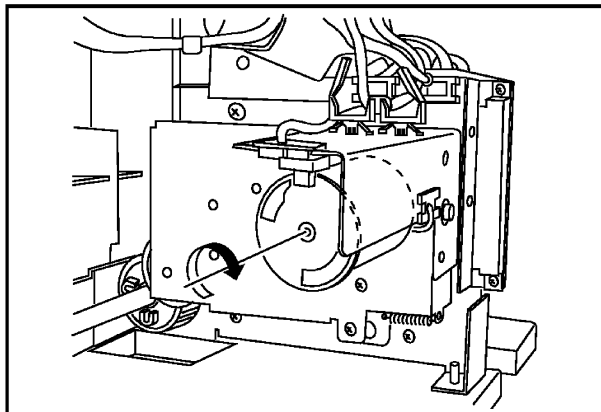
- (10) Remove the **Harnesses** from 3 Clamps.



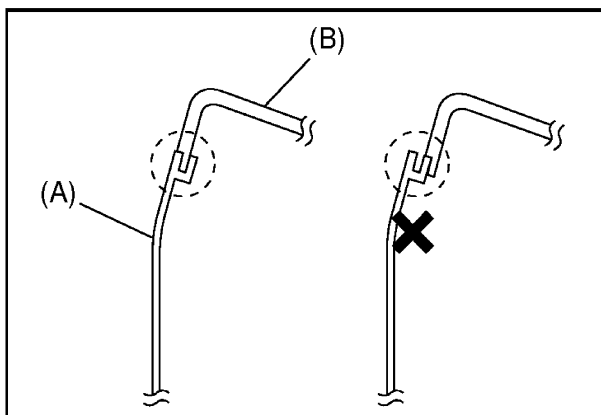
- (11) Disconnect the **Connector J6** and **J9** on the Finisher Controller PC Board.
- (12) 2 **Screws** (2016).
- (13) Remove the **Adjustment Base** (2639) Assembly.



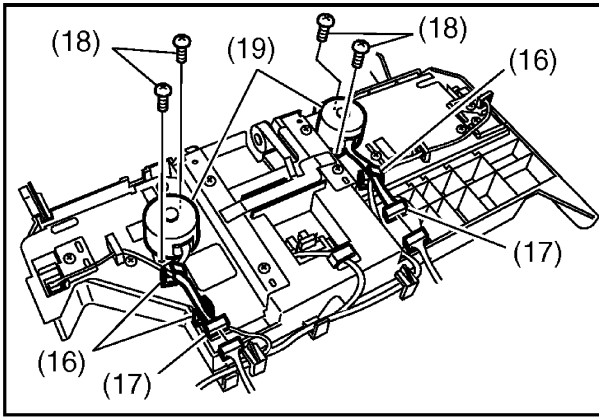
- (14) 2 **Screws** (2016).
- (15) Remove 2 **Ground Plate** (2124).



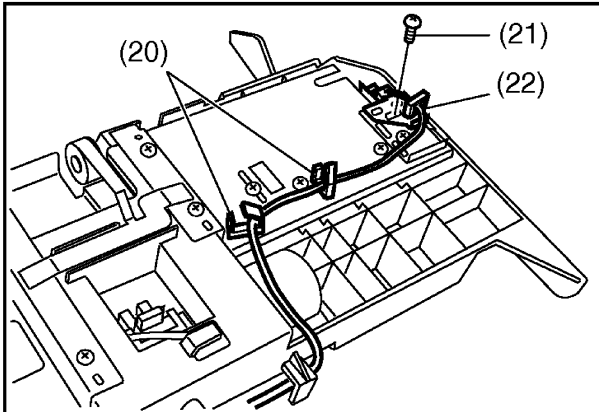
**Note 1:**  
Stack Tray may interfere when removing Screw on Finisher Frame. As shown in the figure on the left, rotate the Clock Plate of Stack Tray Shift Motor clockwise to move down the Stack Tray, allowing the Screw to be removed.



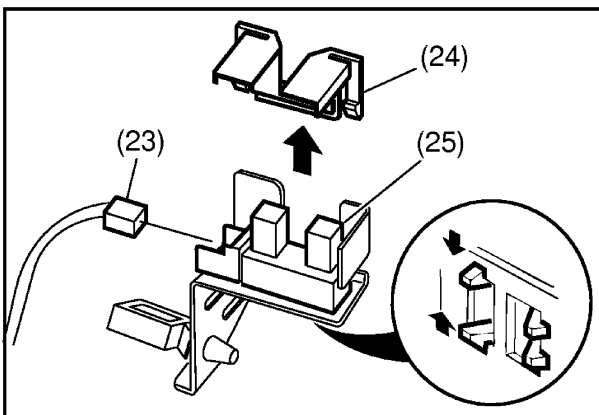
**Note 2:**  
When mounting the Processing Tray, Verify that the 3 Loading Wall Rails (A) fit into the Adjustment Base Assembly (B) as shown in the figure on the left.



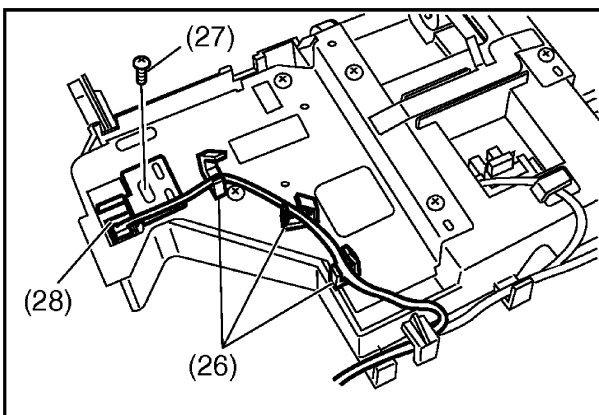
- (16) Disconnect the **Motor Harnesses** from 3 Clamps.
- (17) Disconnect 2 **Motor Connectors**.
- (18) 4 **Screws** (2014).
- (19) Remove 2 **Finisher 4 Motors** (2630).



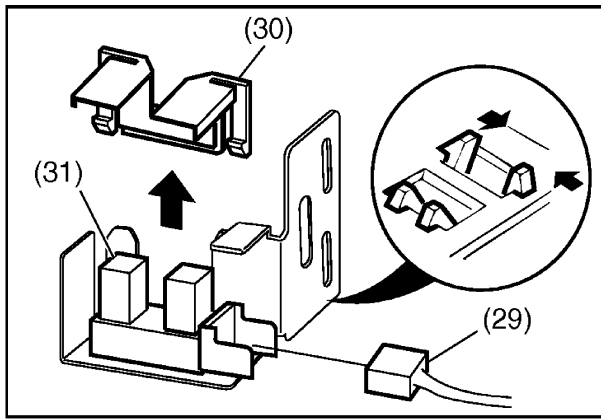
- (20) Remove the **Harness** from the 2 Clamps.
- (21) 1 **Screw** (2030).
- (22) Remove the **Actuator Bracket** (2642).



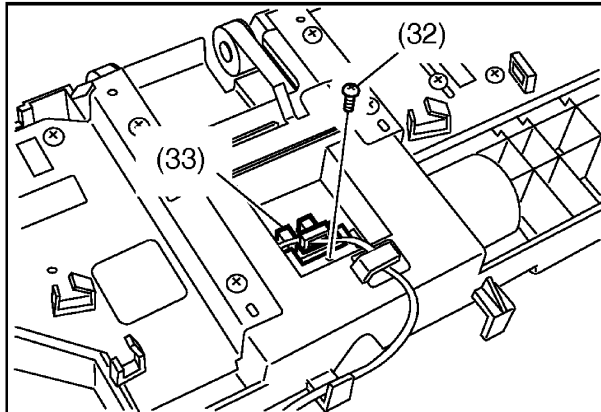
- (23) Disconnect the **Sensor Connector**.
- (24) Remove the **Actuator Guide** (2636).
- (25) Remove the **Sensor** (2114).



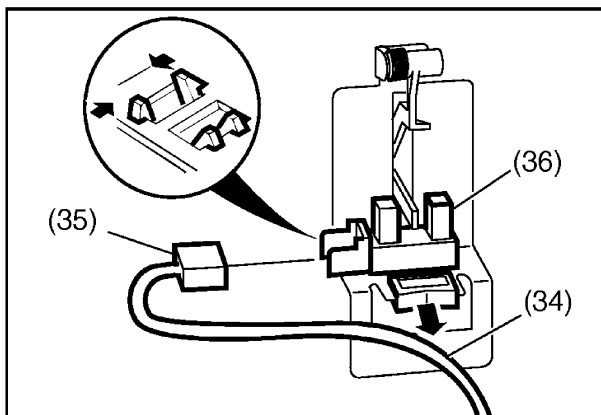
- (26) Remove the **Harness** from 3 Clamps.
- (27) 1 **Screw** (2030).
- (28) Remove the **Actuator Holder** (2640).



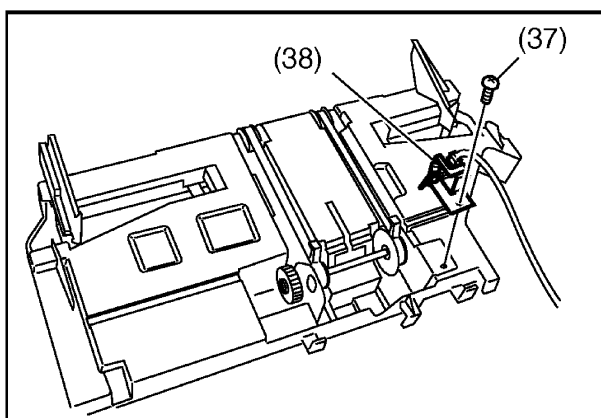
- (29) Disconnect the **Sensor Connector**.
- (30) Remove the **Actuator Guide** (2636).
- (31) Remove the **Sensor** (2114).



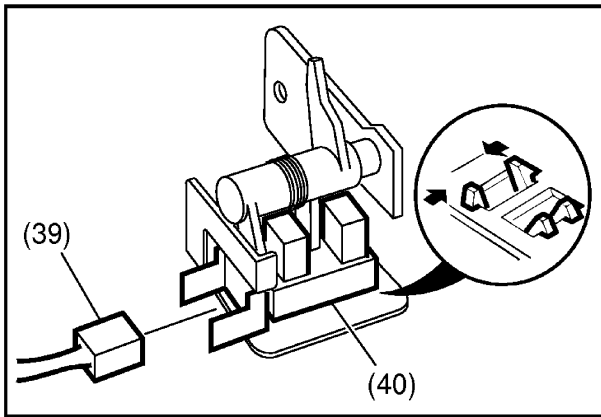
- (32) 1 **Screw** (2036).
- (33) Remove the **Paper Sensor Lever** (2613).



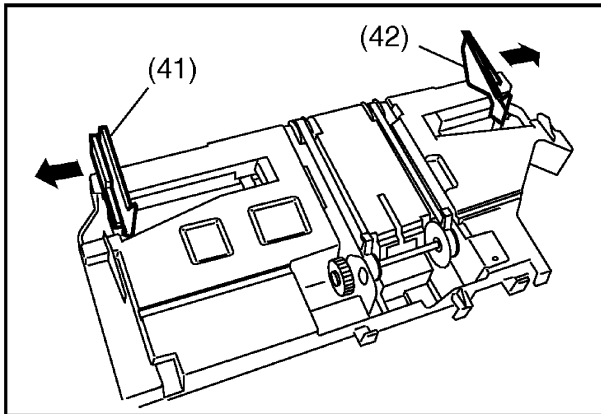
- (34) Remove the **Harness** from the Clamp.
- (35) Disconnect the **Sensor Connector**.
- (36) Remove the **Sensor** (2114).



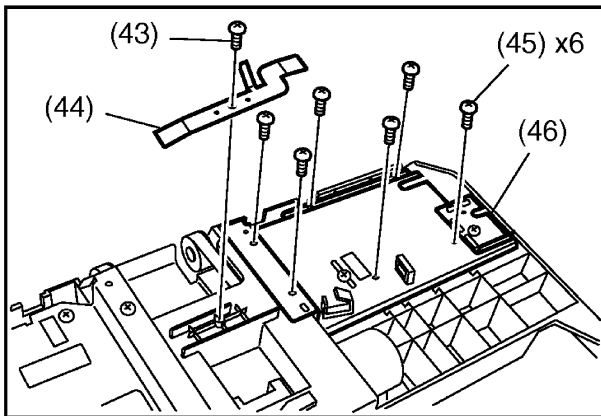
- (37) 1 **Screw** (2043).
- (38) Remove the **Actuator Bracket** (2638).



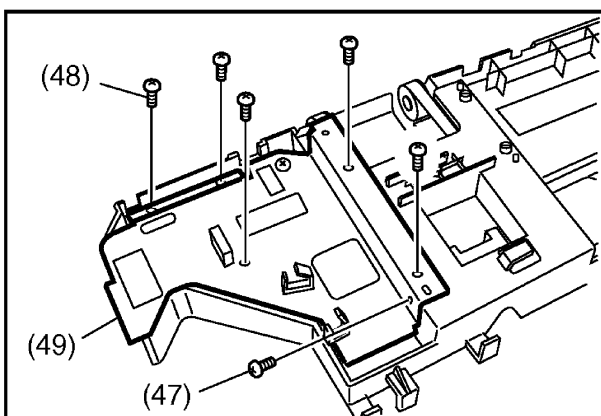
- (39) Disconnect the **Sensor Connector**.  
 (40) Remove the **Sensor** (2114).



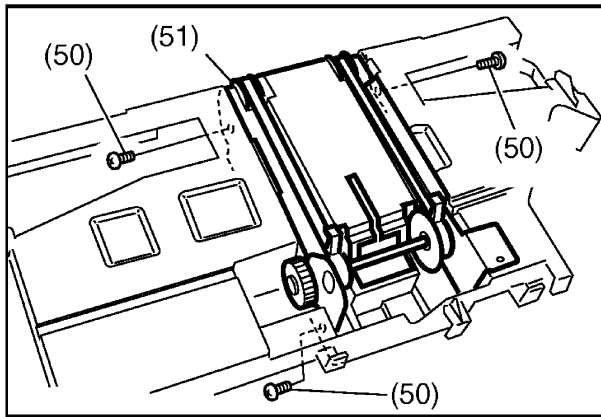
- (41) Remove the **Front Adjustment Plate** (2619) Assembly.  
 (42) Remove the **Rear Adjustment Plate** (2623) Assembly.



- (43) 1 **Screw** (2035).  
 (44) Remove the **Ground Plate** (2601).  
 (45) 6 **Screws** (2035).  
 (46) Remove the **Front Drive Plate** (2626) Assembly.

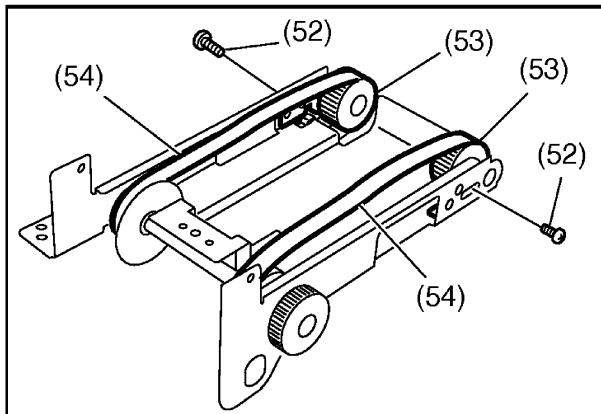


- (47) 1 **Screw**.  
 (48) 6 **Screws** (2035).  
 (49) Remove the **Rear Drive Plate** (2634) Assembly.



(50) 3 **Screws**.

(51) Remove the **Operating Tray Plate (2609)** Assembly.



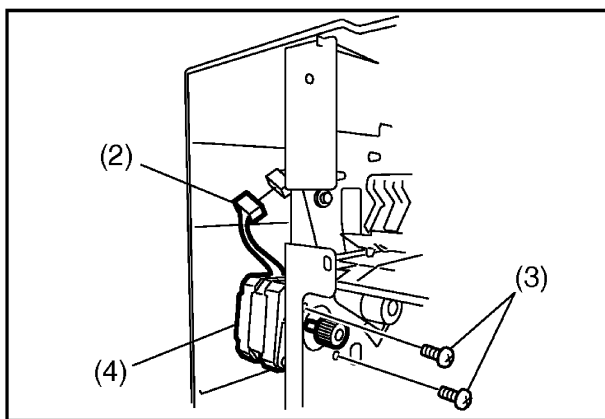
(52) 2 **Screws (2037)**.

(53) Remove 2 **22T Pulley (2616)** Assembly.

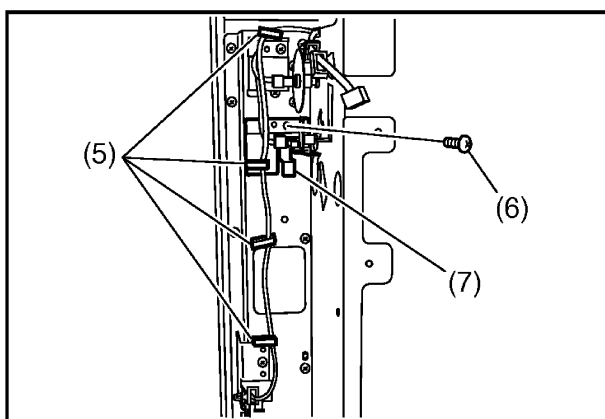
(54) Remove 2 **Paper Feed Belt (2611)**.



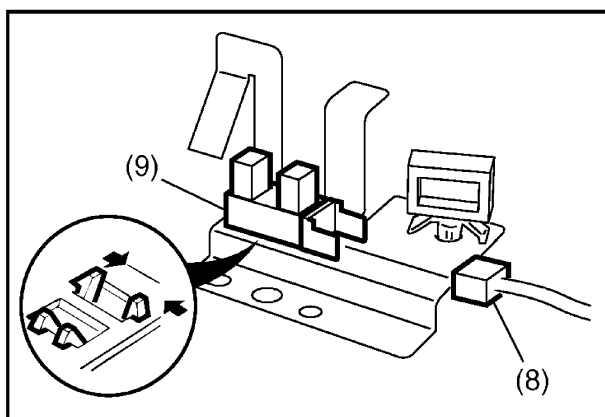
### 10.3.5. Return Roller



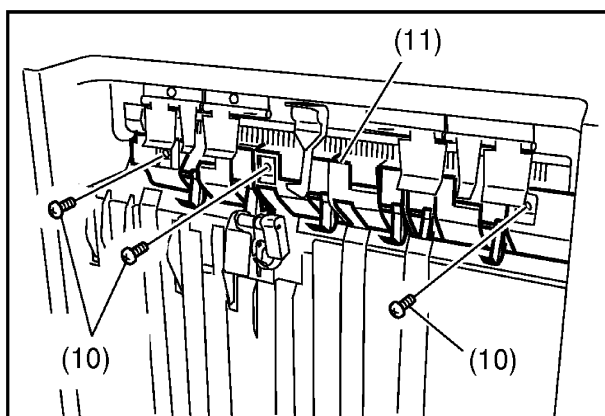
- (1) Remove the **Adjustment Base** (2639) Assembly. (See 10.3.4.)
- (2) Disconnect the **Motor Connector**.
- (3) 2 **Screws** (2014).
- (4) Remove the **Finisher 1 Motor** (2402).



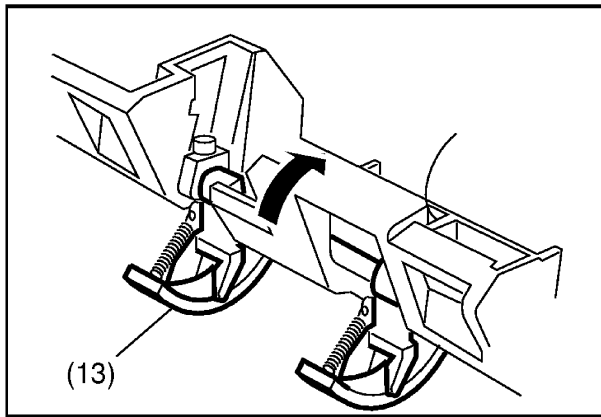
- (5) Remove all **Harnesses** from 4 Clamps.
- (6) 1 **Screw** (2030).
- (7) Remove the **Sensor Holder** (2411).



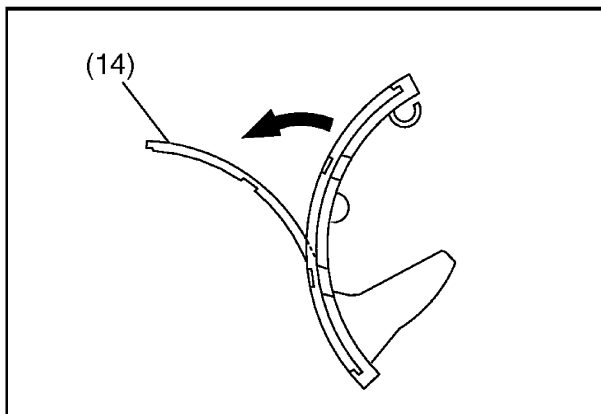
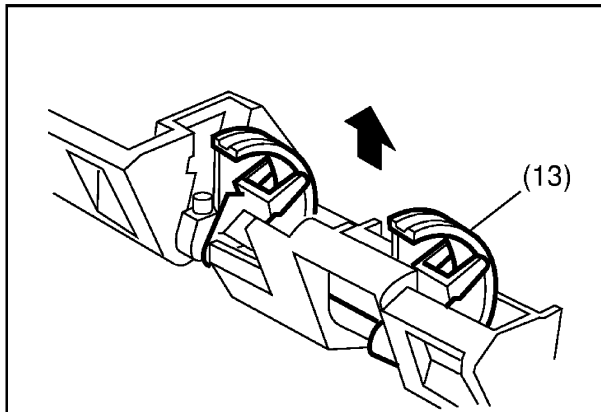
- (8) Disconnect the **Sensor Connector**.
- (9) Remove the **Sensor** (2114).



- (10) 3 **Screws** (2018).
- (11) Remove the **Lower Guide** (2204) and the **Return Roller** (2321) Assembly.
- (12) Remove the **Timing Belt** (2332).

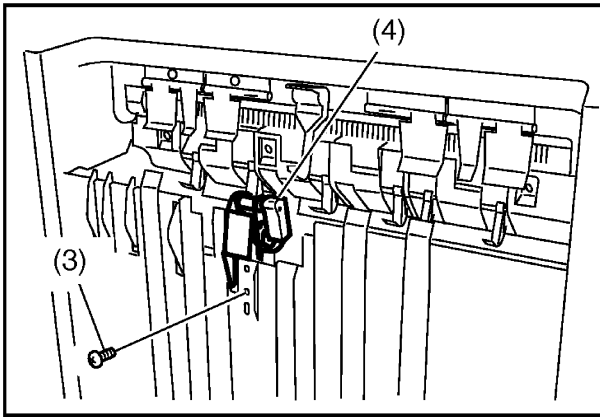


(13) Rotate the **Return Roller** to a position where the Return Roller does not touch the Lower Guide, and then pull out the Return Roller Assembly.

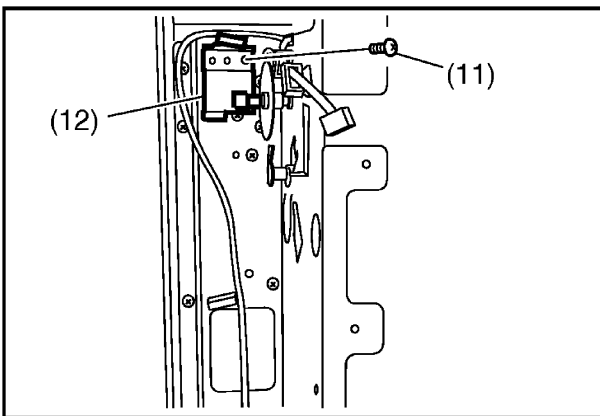
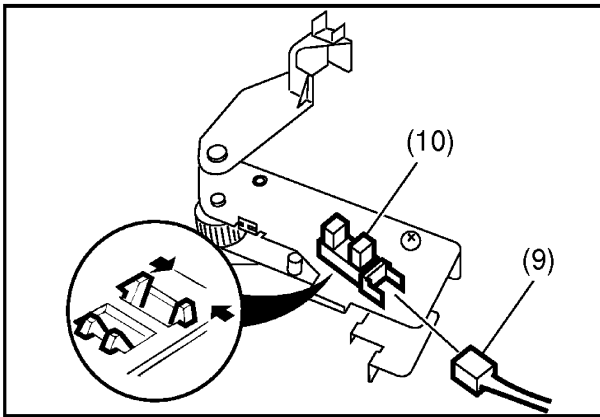


(14) Remove the **Roller Sheet** (2322) by peeling off.

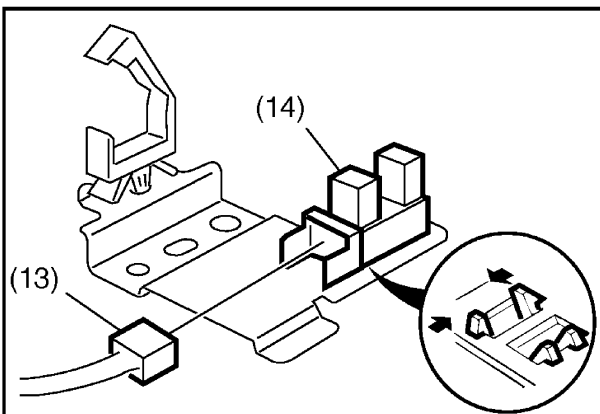
### 10.3.6. Stack Tray Ascending/Descending Unit



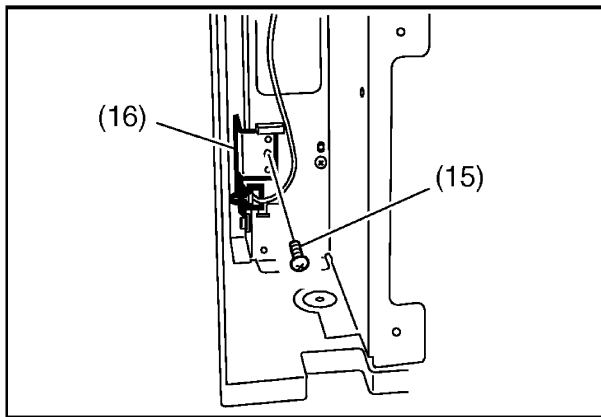
- (1) Remove the **Right Plate**, **Left Plate** and the **Staple Cover**. (See 10.3.2.)
- (2) Remove the **Adjustment Base Assembly**. (See 10.3.4.)
- (3) 1 **Screw** (2028).
- (4) Remove the **Sensor Unit**.
- (5) Remove the **Return Roller** (2321) Assembly.
- (6) Remove the **Finisher Controller PC Board** (2403).
- (7) Release the **Belt Bracket Plate** (2301).
- (8) Remove the **Transportation Driver Unit**. (See 10.3.3.)
- (9) Disconnect the **Sensor Connector**.
- (10) Remove the **Sensor** (2114).



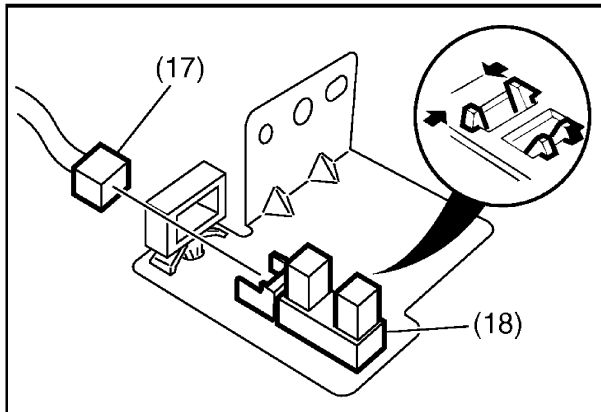
- (11) 1 **Screw** (2030).
- (12) Remove the **Sensor Holder** (2412).



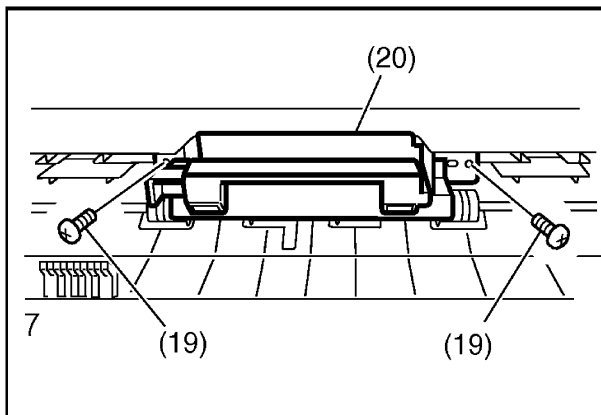
- (13) Disconnect the **Sensor Connector**.
- (14) Remove the **Sensor** (2114).



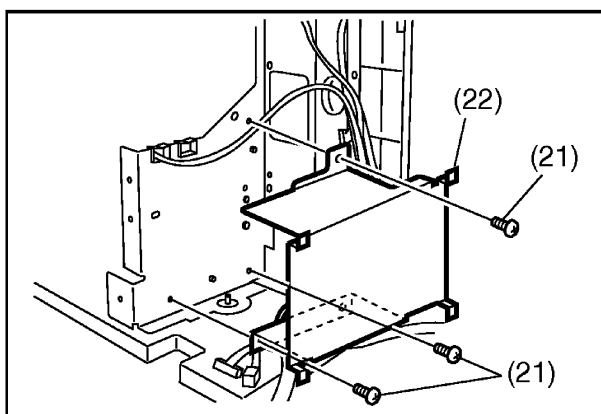
- (15) 1 **Screw** (2030).  
 (16) Remove the **Sensor Holder** (2410).



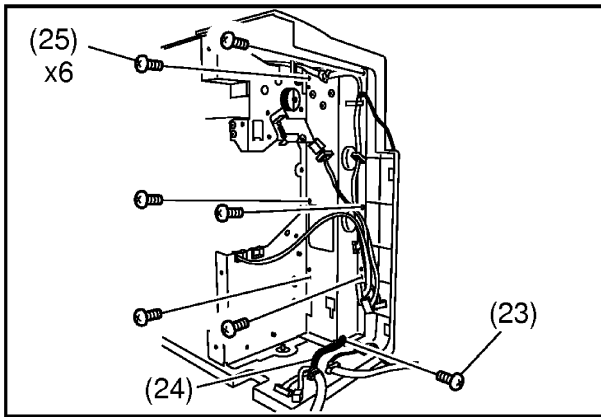
- (17) Disconnect the **Sensor Connector**.  
 (18) Remove the **Sensor** (2114).



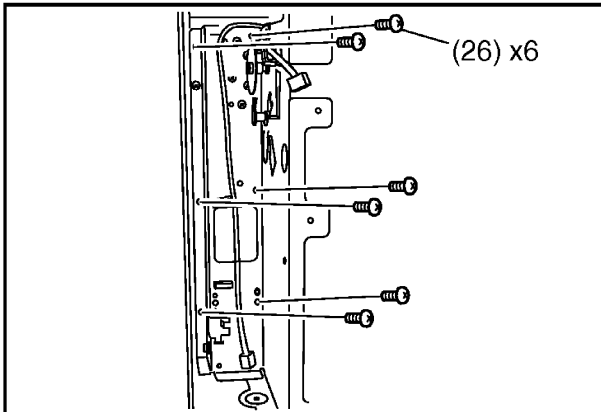
- (19) 2 **Screws** (2018).  
 (20) Remove the **Handle** (2115) Assembly.



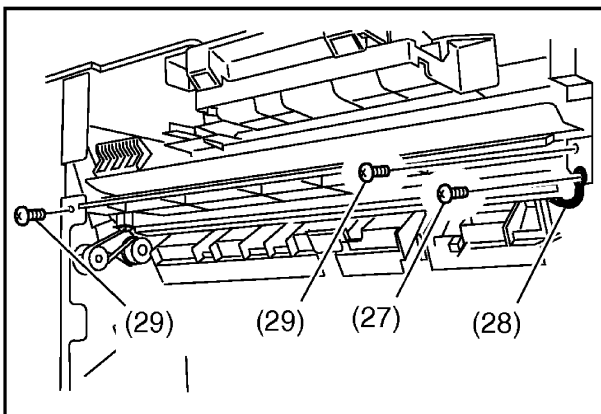
- (21) 3 **Screws** (2030).  
 (22) Remove the **PCB Holder** (2408).



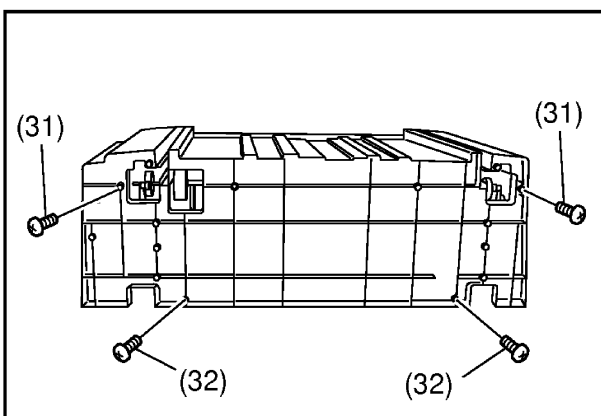
- (23) 1 **Screw** (2020).
- (24) Remove the **Ground Wire**.
- (25) 6 **Screws** (2018).



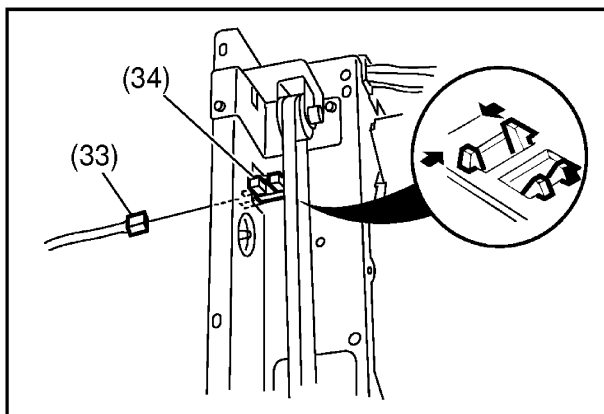
- (26) 6 **Screws** (2018).



- (27) 1 **Screw** (2021).
- (28) Remove the **Ground Wire**.
- (29) 2 **Screws** (2018).

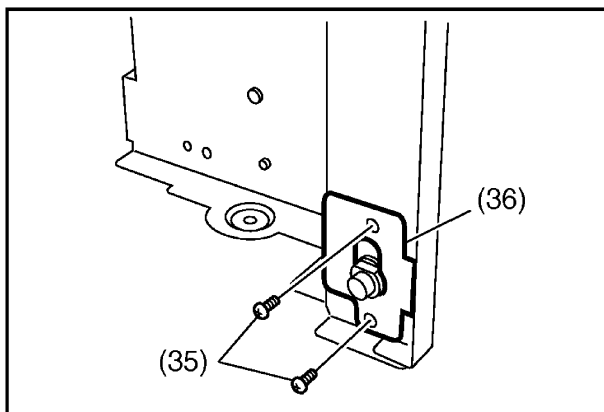


- (30) Reinstall **Right Panel** (2104) with 1 **Screw** (2021) and 4 **Screws** (2016).
- (31) 2 **Screws** (2019).
- (32) 2 **Screws** (2027).



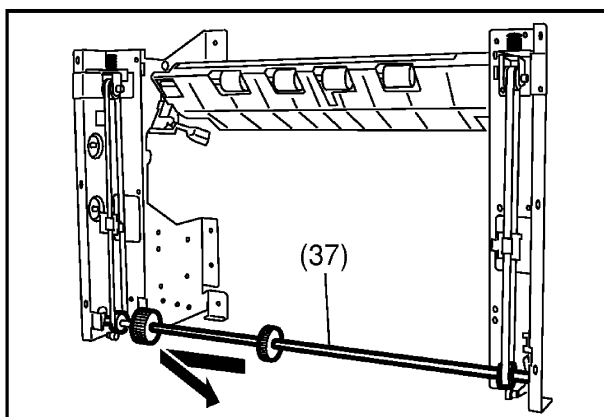
(33) Disconnect the **Sensor Connector**.

(34) Remove the **Sensor** (2114).

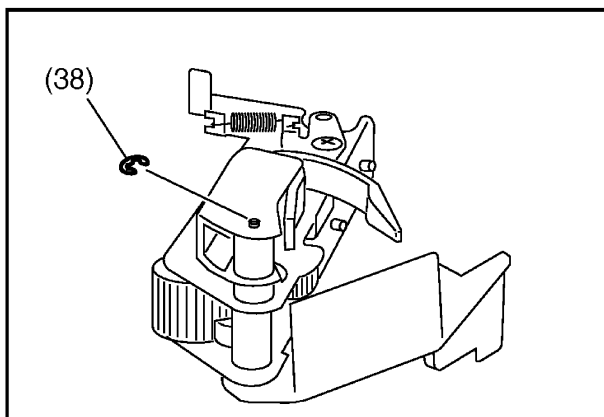


(35) 2 **Screws** (2030).

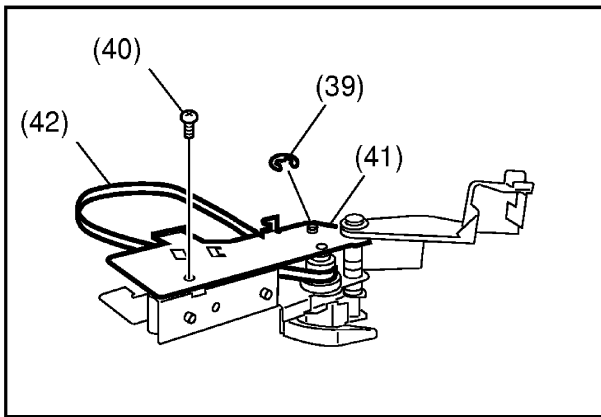
(36) Remove the **Stop Plate** (2303).



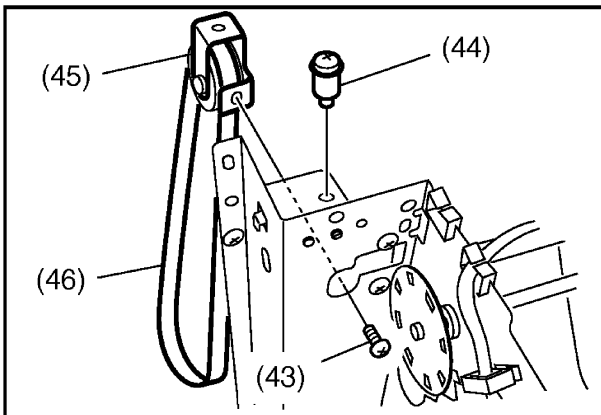
(37) Remove the **Drive Shaft** (2341).



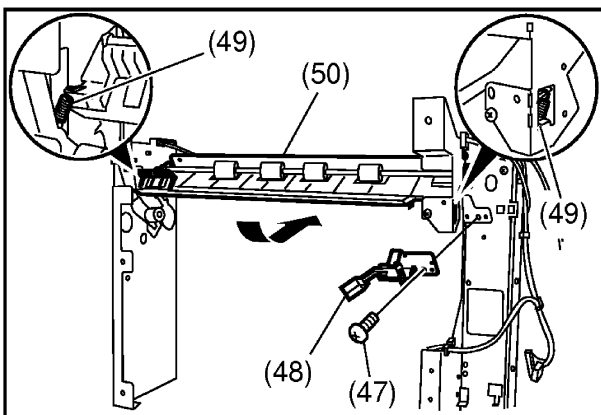
(38) Remove the **E-Clip** (2056).



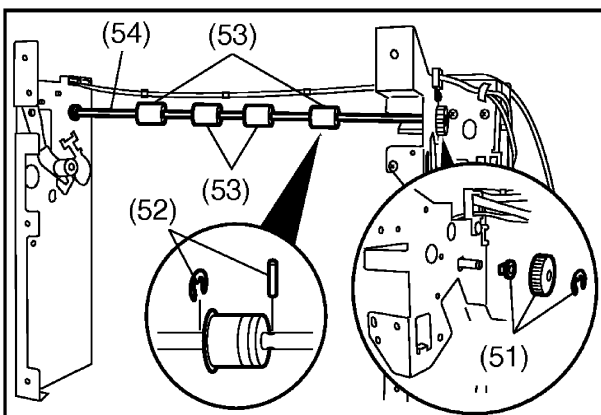
- (39) Remove the **E-Clip** (2057).
- (40) 1 **Screw** (2038).
- (41) Remove the **Bracket Plate** (2718) Assembly.
- (42) Remove the **Timing Belt** (2715).



- (43) 1 **Screw** (2030).
- (44) 1 **Screw** (2040).
- (45) Remove the **Pulley Holder** (2337).
- (46) Remove the **Timing Belt** (2320).

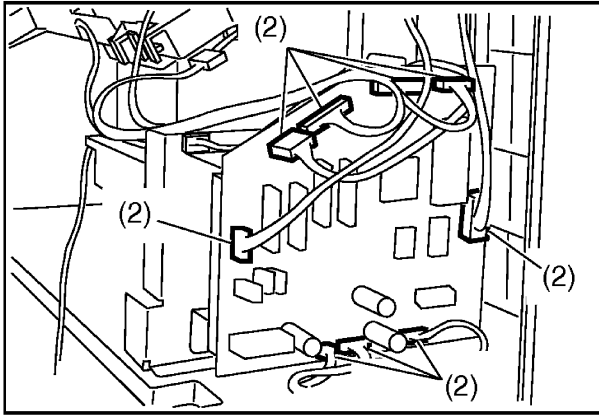


- (47) 1 **Screw** (2030).
- (48) Remove the **Staple Guide** (2406) Assembly.
- (49) Remove 2 **Tension Spring** (2311).
- (50) Remove the **Flange** (2314).

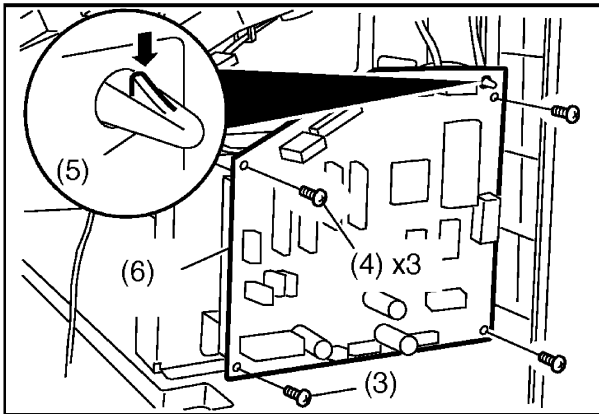


- (51) Remove the **E-Clip** (2058), **23T Gear** (2329) and the **Bushing** (2308).
- (52) Remove 4 **E-Clip** (2058) and 4 **Dowel Pin** (2048).
- (53) Remove 2 **Feed Roller A** (2327) and 2 **Feed Roller B** (2328).
- (54) Remove the **Carriage Shaft** (2343).

### 10.3.7. Finisher Controller PC Board



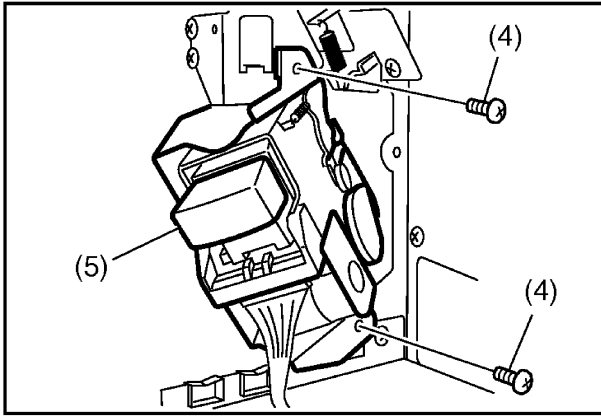
- (1) Remove the **Rear Plate**. (See 10.3.2.)
- (2) Disconnect all **Connectors** on the Finisher Controller PC Board.



- (3) 1 **Screw** (2020).
- (4) 3 **Screw** (2026).
- (5) Remove the **Locking Spacer**.
- (6) Remove the **Finisher Controller PC Board** (2403).

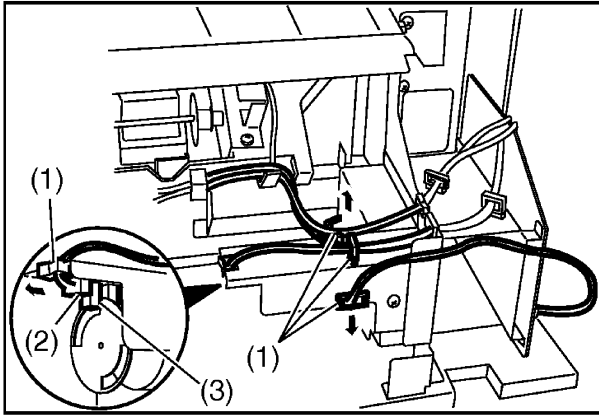


### 10.3.8. Stapler

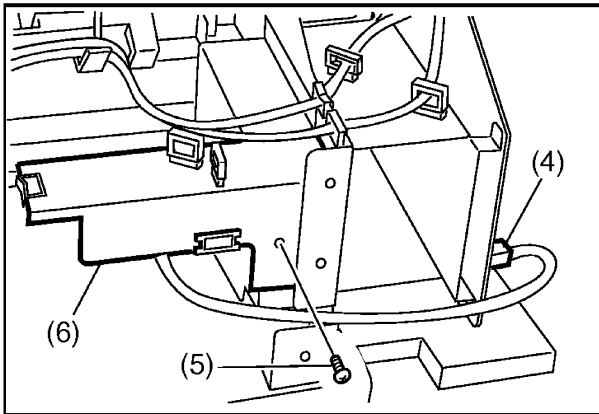


- (1) Remove the **Right Plate**, **Left Plate** and the **Staple Cover**. (See 10.3.2.)
- (2) Remove the **Transportation Driver Unit**.  
(See 10.3.3.)
- (3) Remove the **Finisher Controller PC Board**.  
(See 10.3.7.)
- (4) 2 **Screws** (2014).
- (5) Remove the **Stapler**.

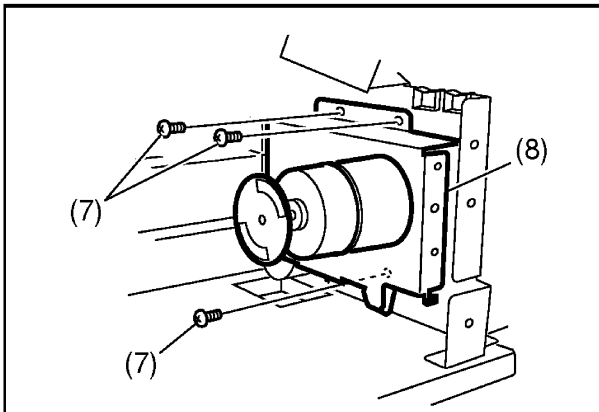
### 10.3.9. Stack Tray Drive Unit



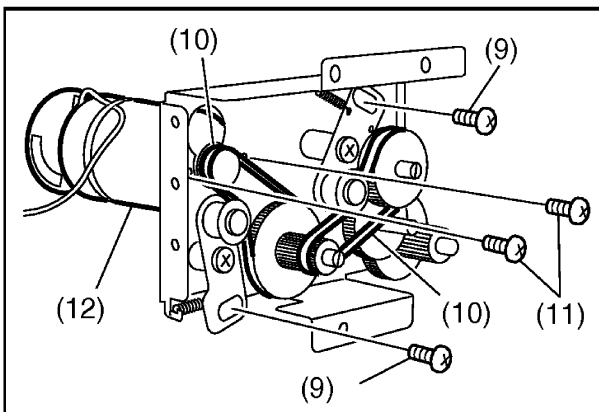
- (1) Remove all **Harnesses** from 4 Clamps.
- (2) Disconnect the **Sensor Connector**.
- (3) Remove the **Sensor** (2114).



- (4) Disconnect **J3** on the Finisher Controller PC Board.
- (5) 1 **Screw** (2030).
- (6) Remove the **Sensor Base** (2511).

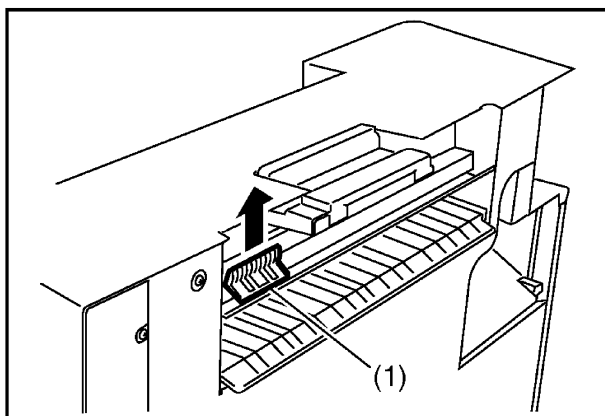


- (7) 3 **Screws** (2030).
- (8) Remove the **Finisher 3 Motor** (2512) Assembly.

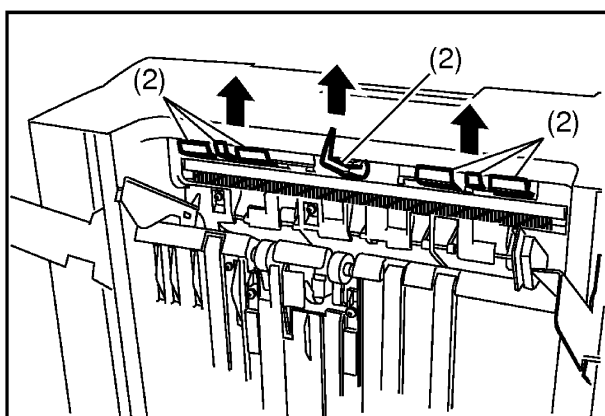


- (9) 2 **Screws** (2046).
- (10) Remove 2 **Timing Belt** (2510).
- (11) 2 **Screws** (2061).
- (12) Remove the **Finisher 3 Motor** (2512).

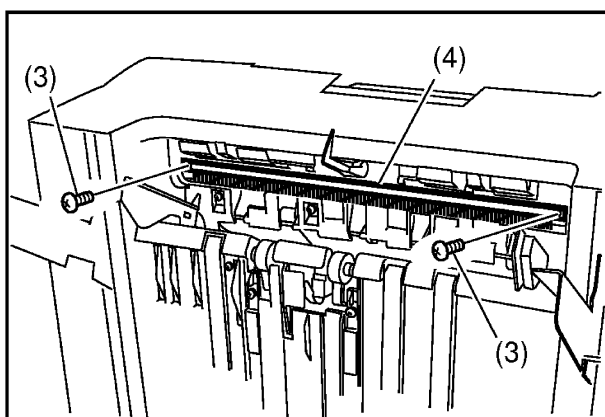
### 10.3.10. Static Prevention Needles



- (1) Lift the **Upper Guide** (2317) to uppermost position and hold down with tape.



- (2) Lift the **End Plate A** (2208), 2 **End Plate B** (2209) and 4 **End Plate C** (2215) to uppermost position and hold them down with tape.

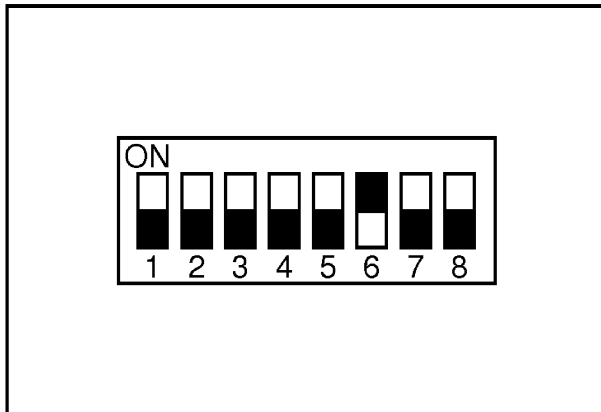


- (3) 2 **Screws** (2013).  
(4) Remove the **Discharge Brush** (2315).

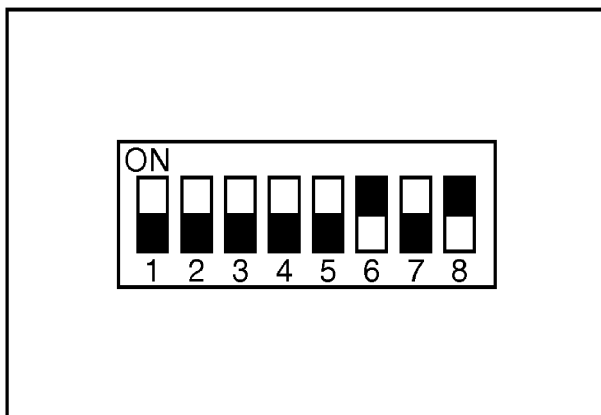
### 10.3.11. Adjusting Aligning Width

**Note:**

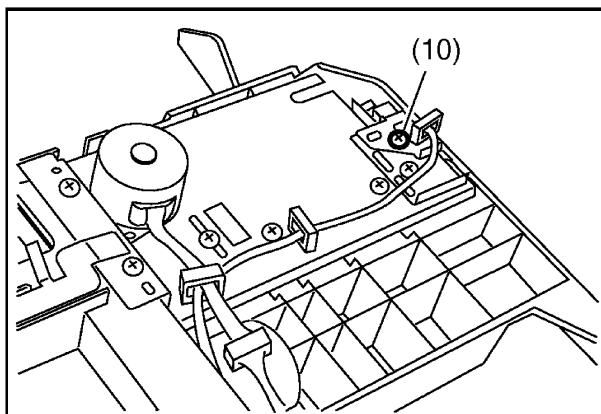
Adjust the aligning width after performing the "Adjusting Aligning Plate Angle" or "Adjusting Overlap Amount of Sensor Flag" procedures in Sect. 10.3.12. and 10.3.13.



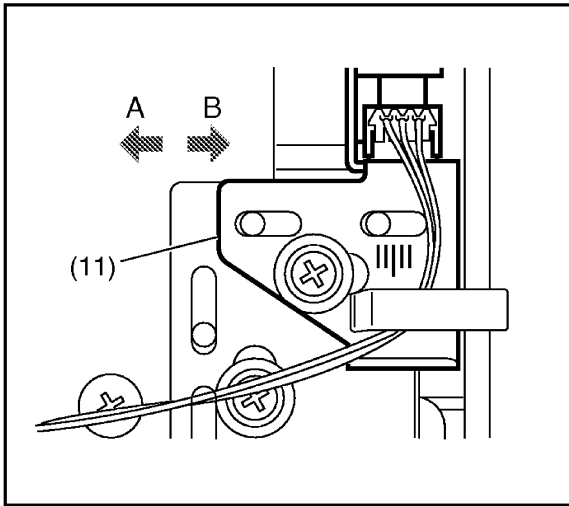
- (1) Remove the **Right Cover** and the **Rear Cover**. (See 10.3.2.)
- (2) Place the **Front Adjustment Plate** at home position.
- (3) Specify settings of SW1 on the Finisher Controller PC Board as shown in figure at top left.
- (4) Press SW2 on the Finisher Controller PC Board.



- (5) Place the **Rear Adjustment Plate** at home position.
- (6) Specify settings of SW1 on the Finisher Controller PC Board as shown in figure at bottom left.
- (7) Press SW2 on the Finisher Controller PC Board.
- (8) Measure the aligning width. (12.5 in (317 mm) by standard)



- (9) Remove the **Processing Tray**. (See 10.3.4.)
- (10) Loosen **Screw** (2030).



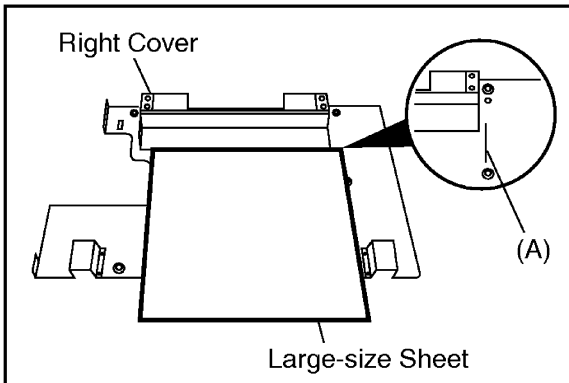
(11) Adjust position with reference to index, and move **Front Adjustment Plate Home Position Sensor (S6)**.

**Example:**

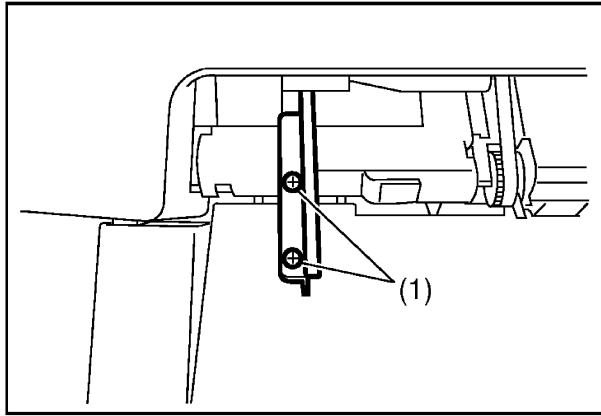
1. If the width in step (2) is 12.6 in (319 mm), the difference from standard value, 12.5 in (317 mm), is +0.08 in (2 mm). Therefore, move Sensor toward arrow A in the figure on the left by 0.08 in (2 mm).
2. If the width in step (2) is 12.4 in (316 mm), the difference from standard value, 12.5 in (317 mm), is -0.04 in (1 mm). Therefore, Move Sensor toward arrow B in the figure on the left by 0.08 (1 mm).

**Note:**

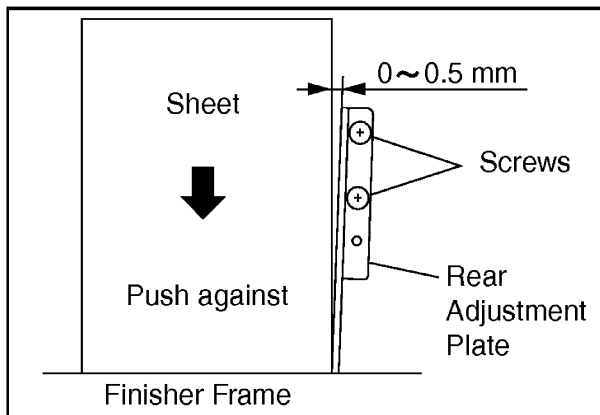
A marking (A) indicating standard 12.5 in (317 mm) width is provided on the back of Right Cover. A large-size sheet folded at the marking may be used as reference for measuring the width of Adjustment Plate.



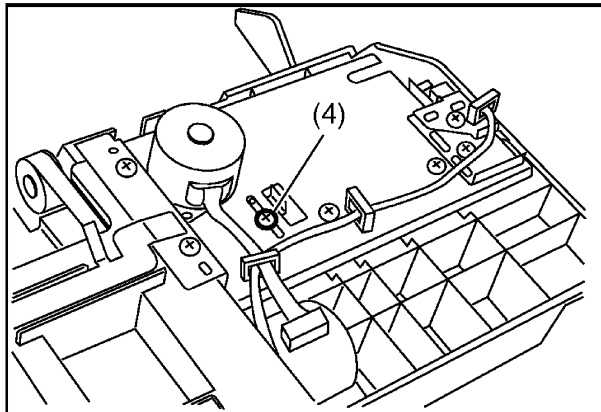
### 10.3.12. Adjusting Angle of Adjustment Plate



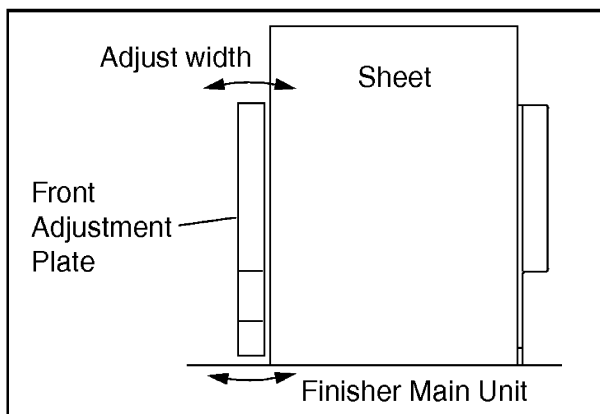
- (1) With the Adjustment Base Assembly mounted, loosen 2 **Screws** (2034) on the Rear Adjustment Plate.



- (2) After loading a few LTR/A4 sheets on the Processing Tray, adjust Rear Adjustment Plate. (At this point, adjust the gap between the tip of Rear Adjustment Plate and LTR/A4 sheet to be 0 to 0.0197 in (0 to 0.5 mm).)



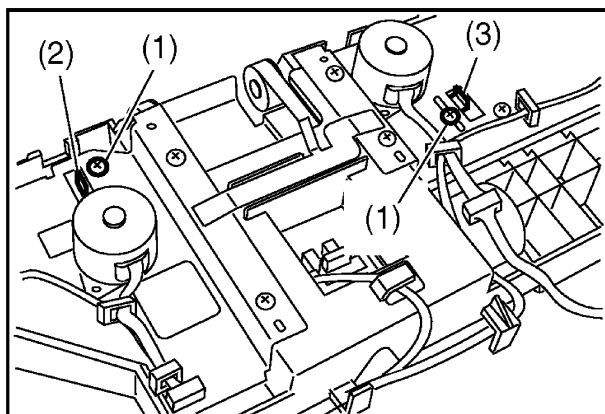
- (3) Remove the **Adjustment Base Assembly**. (See 10.3.4.)  
(4) Loosen **Screw** (2030) of Front adjusting plate.



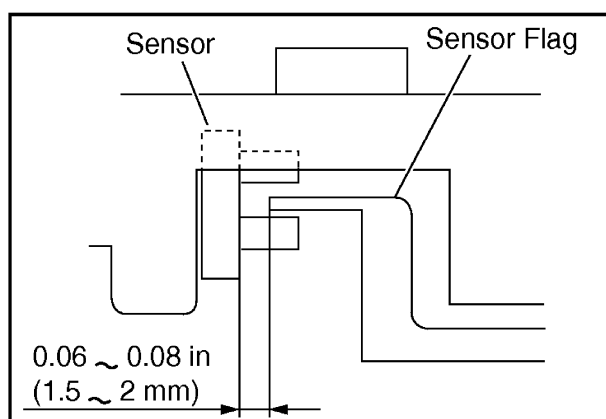
- (5) With reference to the Rear Adjustment Plate adjusted in step (2), adjust the Front Adjustment Plate. (Adjust the gap between the tip of Front Adjustment Plate and LTR/A4 sheet to be 0 to 0.0197 in (0 to 0.5 mm). Then tighten the Screws loosened in step (4).)

### 10.3.13. Adjusting Overlap Amount of Sensor Flag

After replacement of mechanical parts, usually, the overlap amount is adjusted to the previous index shown in step (11) in "Adjusting Aligning Width". However, if overlap amount between sensor and flag has changed due to some reasons, the adjustment procedures described below are applicable:

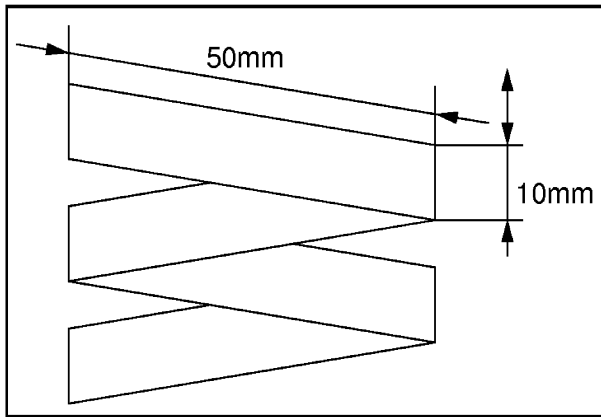


- (1) Remove the **Adjustment Base Assembly**.  
(See 10.3.4.)
- (2) Loosen 2 **Screws** (2030).
- (3) Move the **Collar Bracket** (2641) to right and left.

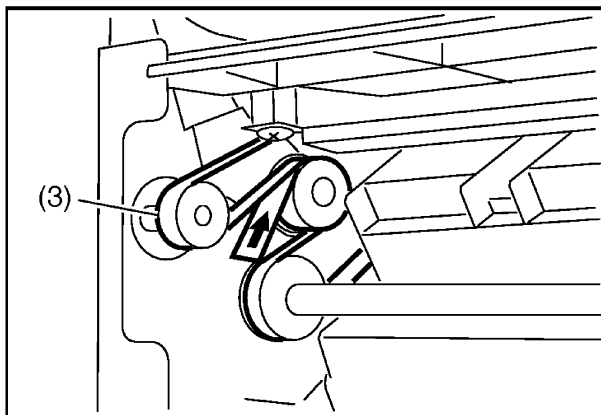


- (4) Adjust so that overlapping portions between front and rear Flags of aligning racks and sensors become 0.06 to 0.08 in (1.5 to 2.0 mm), and then tighten the Screws.

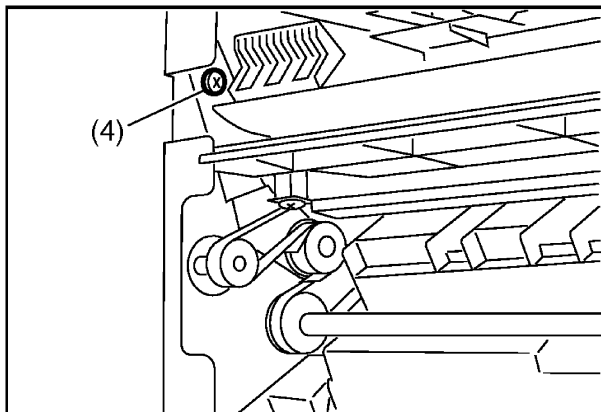
### 10.3.14. Adjusting Tension of Finisher 1 Motor Belt



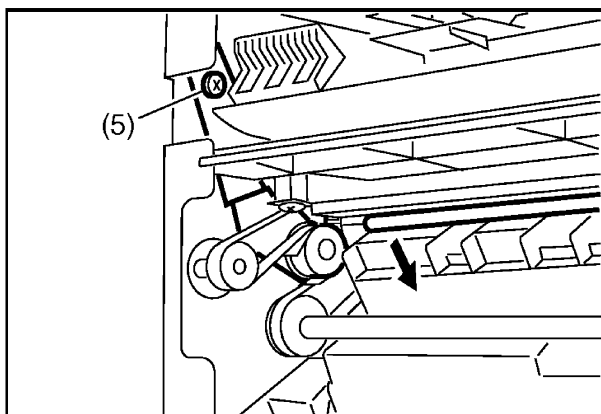
- (1) Remove the **Right Plate** and **Rear Plate**.  
(See 10.3.2.)
- (2) Prepare a piece of paper of 0.39 in (10 mm) width by 7.9 in (200 mm) length using 64/m2 paper, and fold it into four.



- (3) Rotate the **Motor Shaft** to insert the piece of paper between the **Timing Belt** (2332) and **Tension Roller** (2305).

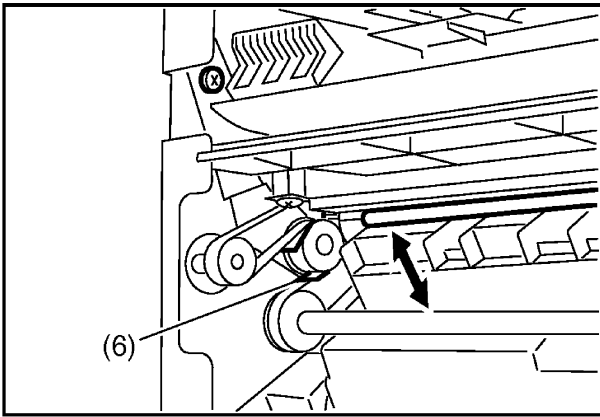


- (4) Loosen **Screw** (2041). (The Tension Plate is pulled by the Tension Spring.)



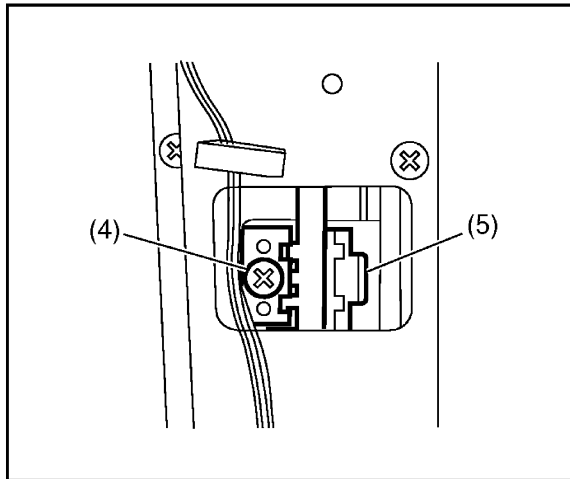
- (5) With the piece of paper inserted, place the **Roller Shaft** (2323) at the lowermost position of movement and Tighten **Screw** (2041).



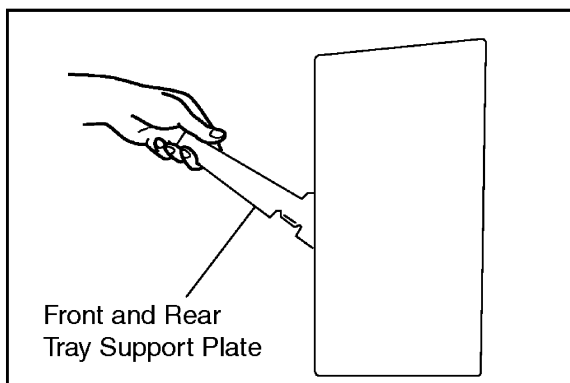


- (6) Remove the paper.
- (7) Verify that the **Roller Shaft** (2323) moves up and down smoothly.

### 10.3.15. Releasing Stack Tray Guide Lever Holding Plate

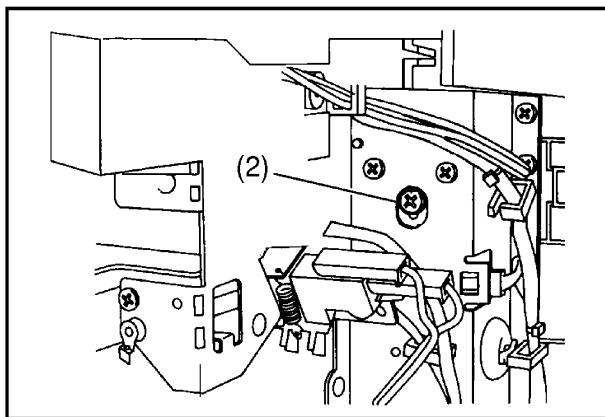


- (1) Remove the **Right Plate**, **Left Plate** and the **Staple Cover**. (See 10.3.2.)
- (2) Remove the **Stack Tray**. (See 10.3.2.)
- (3) Rotate the **Clock Plate** (2501) so that **Front Tray Support Plate** (2109) and **Rear Tray Support Plate** (2110) are seen through the hole on Side Plate. (Moves down by turning clockwise, and moves up by turning counter-clockwise.)
- (4) 1 **Screw** (2030).
- (5) Remove the **Belt Bracket Plate** (2301).  
(Same procedures are applicable to both front side and rear side.)

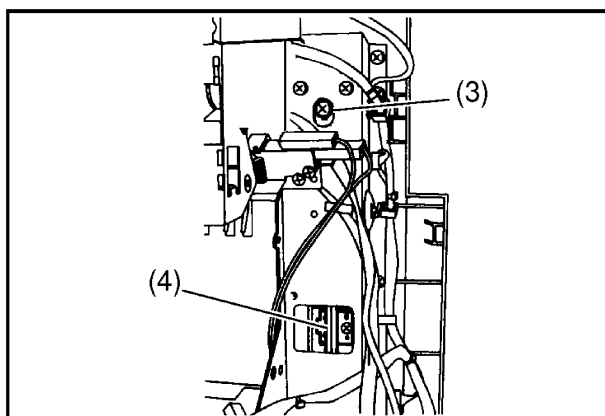


**Note:**  
Hold down the Tray Support Plate when removing the Screw.

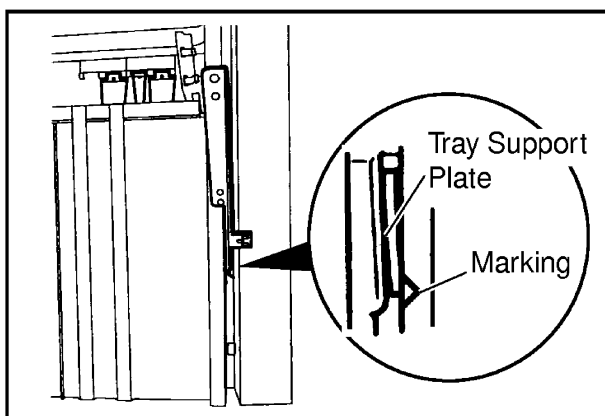
### 10.3.16. Reinstalling Stack Tray Guide Holding Plate



- (1) Remove the **Transportation Driver Unit**.  
(See 10.3.3.)
- (2) Loosen 1 **Screw** (2030) (Front/Rear), loosening the tension of **Timing Belt** (2320).

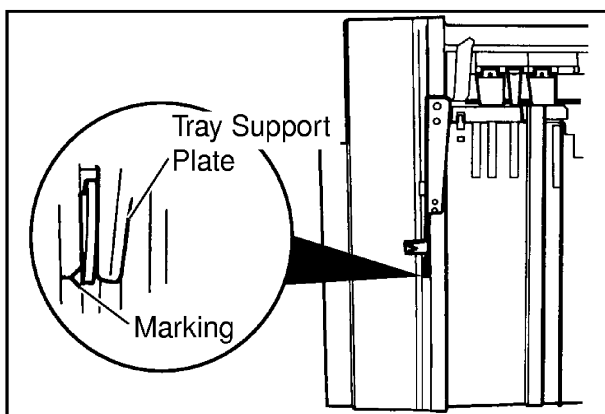


- (3) Re-install **Belt Bracket Plate** (2301) from the hole of the Front/Rear Side Plate.
- (4) Tighten 1 **Screw** (2030), tightening the tension of **Timing Belt** (2320).



**Note:**

Reinstall the Tray Support Plate (at front and rear) where the bottom of the Belt Bracket Plate fits a marking on the frame. This arrangement secures the position of Tray Support Plate (at front and rear).



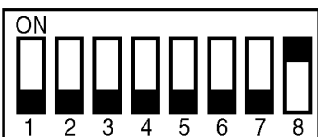
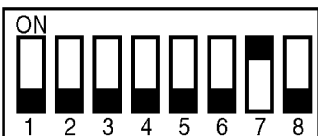


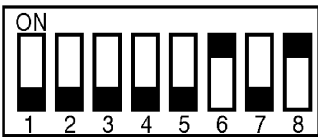
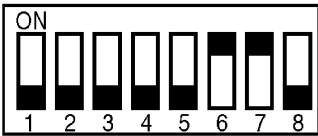
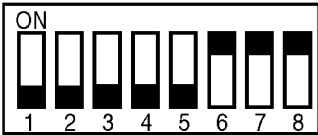
## 10.4. Troubleshooting

### 10.4.1. Function List for DIP Switches

This section summarizes the operation using the DIP switches (SW1) on the Finisher Controller PC Board.

#### - Operation procedures

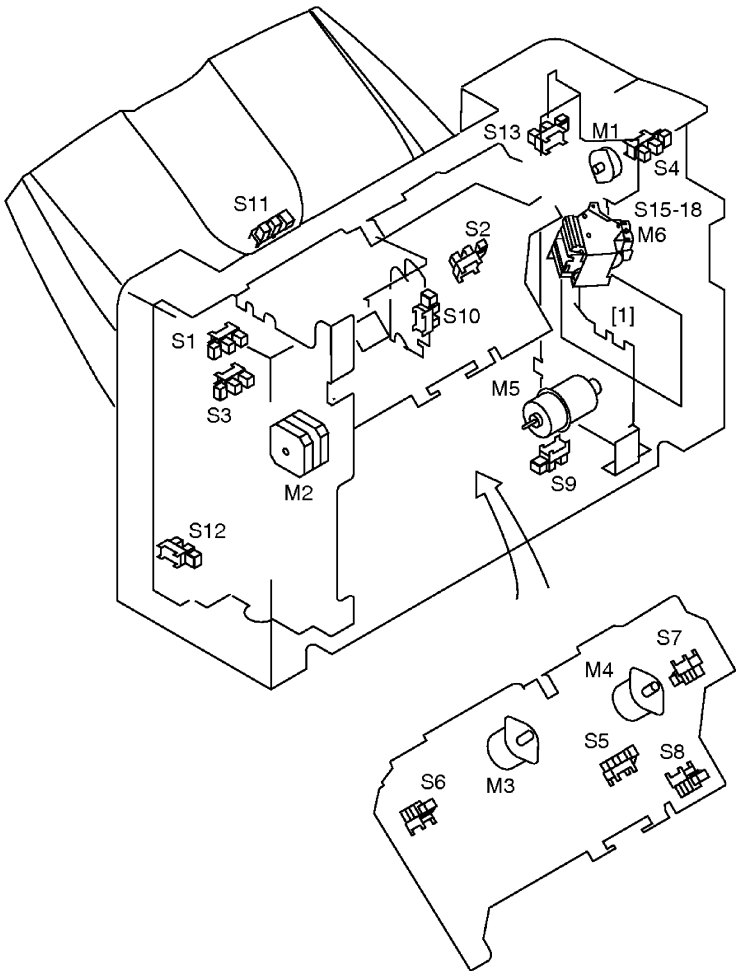
1. Correct faults of operations on applicable systems.
2. Set up the DIP switch (SW1) and turn on the power. (LED1 blinks.)
3. Pressing the push switch (SW2) starts operations under the conditions listed below. (LED2 flashes during operations.)

Function List for DIP Switches				
Setting	Applicable	Operation		Other Method to Stop the Device
	Finisher Motor 2	Feed Roller stops after rotating a specified number of turns.		<ul style="list-style-type: none"> <li>• Press SW2 again</li> <li>• Turn off Joint Sensor (S4)</li> </ul>
	Finisher Motor 1 (Paper Feed Lever)	Paper Feed Lever moves to home position and stops.		<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
	Finisher Motor 1 (Return Roller)	Return Roller moves to home position and stops.		<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
	Front Aligning Motor	Not at home position	Front Adjustment Plate moves to home position and stops	<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
		At home position	Moves toward pressing direction for specified amount and stops at home position	<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
	Rear Aligning Motor	Not at home position	Front Adjustment Plate moves to home position and stops	<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
		At home position	Moves toward pressing direction for specified amount and stops at home position	<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
	Stack Tray Motor {ascending}	Stack Tray moves up and stops upon detection by the Stack Tray Upper Limit Sensor		<ul style="list-style-type: none"> <li>• Press SW2 again</li> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>
	Stack Tray Motor (Descending)	Stack Tray moves down and stops upon detection by Stack Tray Lower Limit Sensor		<ul style="list-style-type: none"> <li>• Press SW2 again</li> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>

Function List for DIP Switches			
Setting	Applicable	Operation	Other Method to Stop the Device
	Stapling Motor	Halts after stapling operation	<ul style="list-style-type: none"> <li>• Turn off Joint Sensor (S4)</li> <li>• Open Finisher</li> </ul>

10.4.2. Electrical Parts Alignment Diagram

1. Electrical Parts Alignment Diagram



### <1.Sensors>

Name	Symbol	Function
Photo Interrupter	S1	Detect Paper Ejection Motor Clock
	S2	Detect paper at entrance
	S3	Detect Return Roller home position
	S4	Detect Finisher Interlock
	S5	Detect sheet on Halfway-processing Tray
	S6	Detect Front Adjustment Plate home position
	S7	Detect Rear Adjustment Plate home position
	S8	Detect Stack Holding Lever home position
	S9	Detect Stack Tray Ascending/Descending Motor Clock
	S10	Detect Stack Tray sheet height
	S11	Detect Stack Tray sheet
	S12	Detect Stack Tray lower limit
	S13	Detect Stack Tray upper limit
	S16	Detect presence/absence of Staple Tip (in Stapler Unit)
	S17	Detect stapling home position (in Stapler Unit)

### <2. Motors>

Name	Symbol	Function
Motor	M1	Eject paper
	M2	Process paper stack
	M3	Align paper at front
	M4	Align paper at rear
	M5	Move up/down Stack Tray
	M6	Staple

### <3. Micro Switches>

Name	Symbol	Function
Micro Switch	S15	Detect presence/absence of Staple Tip (in Stapler Unit)
	S18	Detect remaining amount of staples (in Stapler Unit)

### <4. PC Boards>

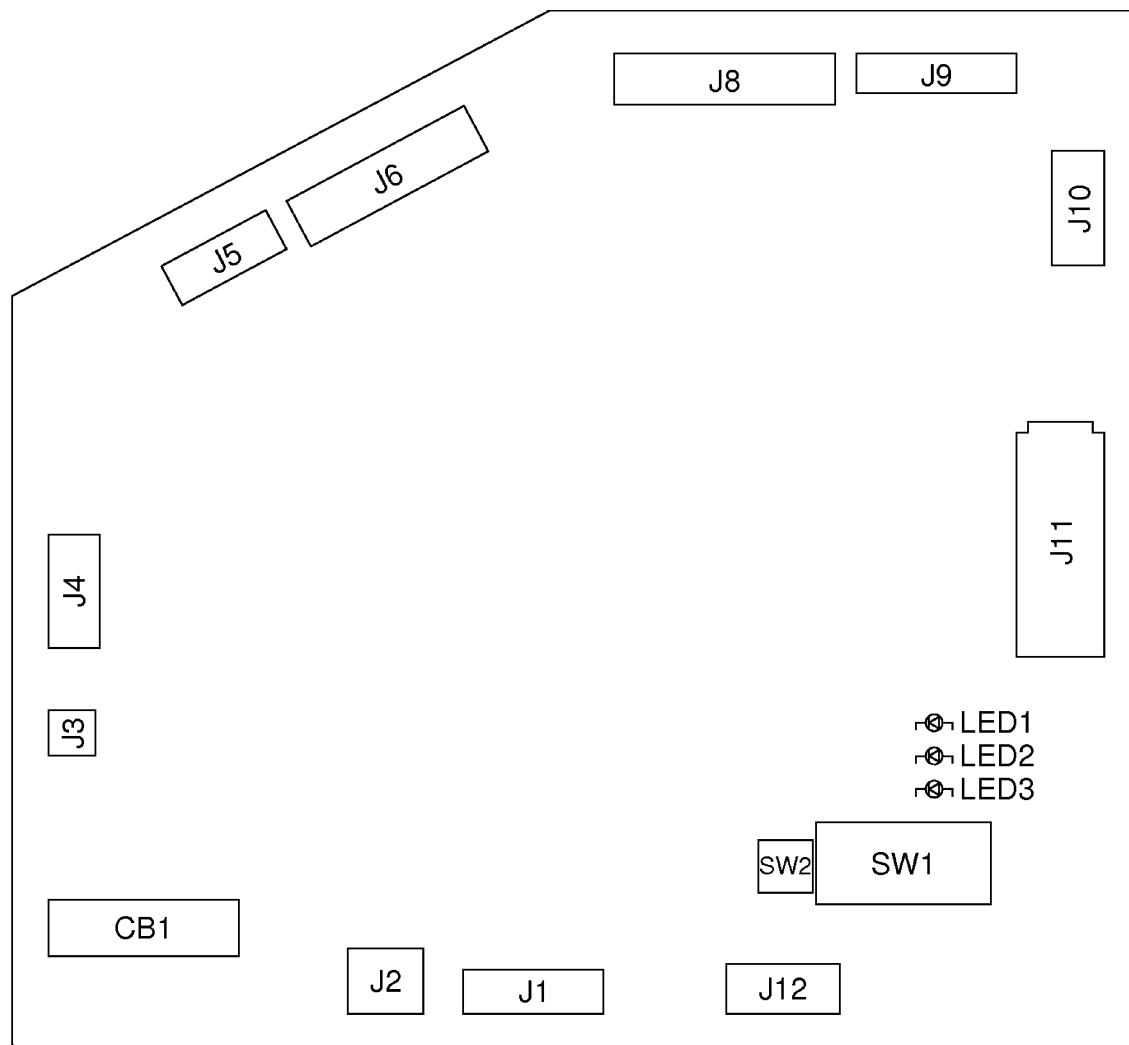
Name	Symbol	Function
PC Board	[1]	Finisher Controller PC Board

## 2. LEDs and Connectors on the Finisher Controller PC Board

LEDs and Connectors required for service are shown below:

### Notes:

- Some of the LEDs may glow slightly after being turned off, due to a leak of current under normal operation. Make sure no to misread these LEDs.
- The Connectors not shown in this illustration are for factory use only. Do not touch these Connectors in the field as special tools and high-precision measuring devices are required.



SW1 : For setting the test mode  
SW2 : For activating the test mode  
LED1 : For test mode  
LED2 : For test mode  
LED3 : For test mode

### 10.4.3. Troubleshooting Faulty Operations

E5-22 (Communication Failure between the Main Unit and the Finisher)				
Cause/Faulty Section	Step	Check	Result	Action
Finisher Controller PC Board/IPC PC Board and LPC PC Board in Main Unit	1	Verify normal operation by turning the power On/Off in the Main Unit.	Yes	Completed
Connector (Electrical Connection)	2	Check whether the Finisher Controller PC Board, Main Unit IPC PC Board and LPC PC Board are properly connected.	No	Correct connection
Finisher Controller PC Board/IPC PC Board and LPC PC Board in Main Unit	3	Verify normal operation by replacing the Finisher Controller PC Board and IPC PC Board/LPC PC Board in Main Unit.	Yes	Completed

E7-21 (Finisher Motor 2 (M1) Failure)				
Cause/Faulty Section	Step	Check	Result	Action
Feed Roller	1	Manually check whether the Feed Roller's rotation is smooth.	No	Correct mechanical fault
Connector (Electrical Connection)	2	Check whether the Paper Ejection Motor is properly connected to the Finisher Controller PC Board.	No	Correct connection
Finisher Motor 2 Clock Sensor (S1)	3	Check whether the Finisher Motor 2 Clock Sensor (S1) is operating normally.	No	Replace the Sensors
Finisher Motor 2 (M1)	4	Verify whether the operation is normal by replacing the Finisher Motor 2.	Yes	Replace the Motor
Finisher Controller PC Board			No	Replace the Finisher Controller PC Board

E7-28 (Finisher Motor 1 (M2) Failure)				
Cause/Faulty Section	Step	Check	Result	Action
Finisher Motor 1 (M2)	1	Check whether the tension of the driving belt is correct.	No	Adjust the tension of the driving belt.
	2	Check whether the Return Roller Bearing slides smoothly in the vertical direction.	No	Apply grease to the sliding sections
	3	Check whether the fitting of the Return Roller Spring is correct.	Yes	Adjust the Return Roller Spring
Connector (Electrical Connection)	4	Check whether the Finisher Motor 1 (M2) is properly connected to the Finisher Controller PC Board.	No	Correct connection
Paper Feed Lever Home Position Sensor (S8)	5	Check whether the operation of the Paper Feed Lever Home Position Sensor (S8) is correct.	No	Replace the Sensors
Return Roller Position Sensor (S3)	6	Check whether the operation of the Return Roller Home Position Sensor (S3) is correct.	No	Replace the Sensors
Finisher Motor 1 (M2)	7	Check whether the fault is corrected by replacing the Paper Stack Processing Motor (M2).	Yes	Completed
Finisher Controller PC Board			No	Replace the Finisher Controller PC Board



<b>E7-20 (Rear Aligning Motor (M4) Failure)</b>				
<b>Cause/Faulty Section</b>	<b>Step</b>	<b>Check</b>	<b>Result</b>	<b>Action</b>
Rear Aligning Guide Home Position Sensor (S7)	1	Check whether the Rear Aligning Guide Home Position Sensor (S7) is operating normally.	No	Replace the Sensors
Connector (Electrical Connection)	2	Check whether the Rear Aligning Guide Motor (M4) is properly connected to J6 on the Finisher Controller PC Board.	No	Correct connection
Rear Adjustment Plate	3	Check whether the rack is overlapping the edge of the roller.	Yes	Correct fault
Rear Aligning Guide Motor (M4)	4	Check whether the fault is corrected by replacing the Rear Aligning Guide Motor (M4).	Yes	Completed
Finisher Controller PC Board			No	Replace the Finisher Controller PC Board

<b>E7-23 (Stapling Motor (M6) Failure)</b>				
<b>Cause/Faulty Section</b>	<b>Step</b>	<b>Check</b>	<b>Result</b>	<b>Action</b>
Connector (Electrical Connection)	1	Check whether the Stapling Unit is properly connected to J8 on the Finisher Controller PC Board.	No	Correct connection
Stapling unit	2	Check whether the fault is corrected by replacing the Stapling Unit.	Yes	Completed
Finisher Controller PC Board			No	Replace the Finisher Controller PC Board

<b>E7-22 (Front Aligning Motor (M3) Failure)</b>				
<b>Cause/Faulty Section</b>	<b>Step</b>	<b>Check</b>	<b>Result</b>	<b>Action</b>
Front Aligning Guide Home Position Sensor (S6)	1	Check whether the Front Aligning Guide Home Position Sensor (S6) is operating normally.	No	Replace the Sensors
Connector (Electrical Connection)	2	Check whether the Front Aligning Guide Motor is properly connected to the Finisher Controller PC Board.	No	Correct connection
Front Adjustment Plate	3	Check whether the rack is overlapping the Front Adjustment Plate.	Yes	Correct fault
Front Aligning Guide Motor (M3)	4	Check whether the fault is corrected by replacing the Rear Aligning Guide Motor (M3).	Yes	Completed
Finisher Controller PC Board			No	Replace the Finisher Controller PC Board

<b>E7-27 (Stack Tray Ascending/Descending Motor (M5) Failure)</b>				
<b>Cause/Faulty Section</b>	<b>Step</b>	<b>Check</b>	<b>Result</b>	<b>Action</b>
Stack Tray Ascending/Descending Motor (M5)	1	Manually check whether the Stack Tray Ascending/Descending Motor's rotation is smooth.	No	Correct mechanical fault
Connector (Electrical Connection)	2	Check whether the Stack Tray Ascending/Descending Motor is properly connected to the Finisher Controller PC Board.	No	Correct connection

<b>E7-27 (Stack Tray Ascending/Descending Motor (M5) Failure)</b>				
<b>Cause/Faulty Section</b>	<b>Step</b>	<b>Check</b>	<b>Result</b>	<b>Action</b>
Tray Alignment	3	Check whether the Front and Rear (Height Adjustment) of the Stack Tray is correctly aligned.	No	Correct the Front and Rear Stack Tray alignment.
Stack Tray Ascending/Descending Motor Clock Sensor (S9)	4	Check whether the Stack Tray Ascending/Descending Motor Clock Sensor (S9) is operating normally.	No	Replace the Change Sensors
Stack Tray Sheet Height Sensor (S10)	5	Check whether the Stack Tray Sheet Height Sensor (S10) is operating normally.	No	Replace the Change Sensors
Stack Tray Upper Limit Sensor (S13) and Stack Tray Lower Limit Sensor (S12)	6	Check whether the Stack Tray Upper Limit Sensor (S13) and Stack Tray Lower Limit Sensor (S12) are operating normally.	No	Replace the Change Sensors
Finisher Controller PC Board	7	Check whether the voltage between J3-1 and 2 on the Finisher Controller PC Board goes to 24 VDC when the Stack Tray Ascending/Descending Motor (M5) driver is initialized.	No	Replace the Finisher Controller PC Board
Stack Tray Ascending/Descending Motor (M5)			Yes	Check the connections from the Stack Tray Ascending/Descending Motor (M5) to the Finisher Controller PC Board. If connection is good, replace the motor.

#### 10.4.4. Self Diagnosis

<b>Self Diagnosis</b>		
<b>Code Indication</b>	<b>Main Cause</b>	<b>Detection Timing</b>
E5-22	<ul style="list-style-type: none"> <li>• Fault in the connection with the Main Unit (Loose Connector)</li> <li>• Fault in the Finisher Controller PC Board or IPC PC Board and/or LPC PC Board in the Main Unit.</li> </ul>	Communication between the Main Unit and Finisher failed to recover within 5 seconds.
E7-21	<ul style="list-style-type: none"> <li>• Fault in Finisher Motor 2 (M1)</li> <li>• Fault in Finisher 2 motor clock sensor (S1)</li> <li>• Fault in the Finisher Controller PC Board</li> </ul>	The Finisher 2 motor clock sensor (S1) signal is not detected after the Finisher Motor 2 (M1) carries the paper for a specified amount (70 mm in, for 80 pulses)
E7-28	<ul style="list-style-type: none"> <li>• Fault in Finisher Motor 1 (M2)</li> <li>• Fault in the Paper Feed Lever Home Position Sensor (S8).</li> <li>• Fault in the Return Roller Home Position Sensor (S3).</li> <li>• Fault in the connection to the Finisher Motor 1 (M2).</li> <li>• Fault in the Paper Feed Belt</li> <li>• Fault in the Return Roller</li> </ul>	<ul style="list-style-type: none"> <li>• The Paper Feed Lever does not reach the Home Position Sensor (S8) after driving the Finisher Motor 2 (M2) for a specified amount of time.</li> <li>• The Return Roller does not reach the Home Position Sensor (S3) after driving the Finisher Motor 1 (M2) for a specified amount of time.</li> </ul>

### Self Diagnosis

Code Indication	Main Cause	Detection Timing
E7-20	<ul style="list-style-type: none"> <li>• Fault in the Rear Aligning Motor (M4)</li> <li>• Fault in the Rear Aligning Home Position Sensor (S7)</li> <li>• Fault in the connection to the Rear Aligning Motor</li> <li>• Fault in the load on the Rear Aligning Motor</li> </ul>	<ul style="list-style-type: none"> <li>• The Rear Aligning Guide does not reach the Home Position Sensor (S7) after driving the Rear Aligning Motor (M4) for a specified amount of time.</li> <li>• The Rear Aligning Guide does not leave the Home Position Sensor (S7) after driving the Rear Aligning Motor (M4) for a specified amount of time.</li> </ul>
E7-23	<ul style="list-style-type: none"> <li>• Fault in Stapler Motor (M6)</li> <li>• Fault in the Stapling Home Position Sensor (S17)</li> <li>• Fault in Stapler connection</li> <li>• Fault in the Finisher Controller PC Board</li> </ul>	<ul style="list-style-type: none"> <li>• The Stapler does not leave the Stapling Home Position Sensor (S17) within 0.5 seconds after the Stapler motor is driven in the normal rotation.</li> <li>• The Reversed rotation of the Stapler motor does not return to the Stapling Home Position Sensor (S17) within 0.5 seconds either.</li> </ul>
E7-22	<ul style="list-style-type: none"> <li>• Fault in the Front Aligning Motor (M3)</li> <li>• Fault in Front Aligning Home Position Sensor (S6)</li> <li>• Fault in the connection with the Rear Aligning Motor</li> <li>• Fault in the load on the Rear Aligning Motor</li> </ul>	<ul style="list-style-type: none"> <li>• The Rear Aligning Guide does not reach the Home Position Sensor (S6) after driving the Rear Aligning Guide Motor (M3) for a specified amount of time.</li> <li>• The Rear Aligning Guide does not leave the Home Position Sensor (S6) after driving the Rear Aligning Guide Motor (M3) for a specified amount of time.</li> </ul>
E7-27	<ul style="list-style-type: none"> <li>• Fault in the Stack Tray Ascending/Descending Motor (M5)</li> <li>• Fault in the Stack Tray Sheet Height Sensor (S10)</li> <li>• Fault in the Stack Tray Ascending/Descending Motor Clock Sensor (S9)</li> <li>• Fault in the load on the Stack Ascending/Descending Motor</li> <li>• Fault in Finisher Controller PC Board</li> </ul>	<ul style="list-style-type: none"> <li>• The Stack Tray Upper Limit Sensor (S13) is activated during operation of the Stack Tray Ascending/Descending Motor (M5).</li> <li>• The detection of the clock signal for the Stack Tray Ascending/Descending Motor Clock Sensor (S9) fails within 15 times or more within 0.8 seconds during the operation of the Stack Tray.</li> <li>• The Stack Tray does not reach the Stack Tray Sheet Height Sensor (S10) even after the Ascending/Descending Motor (M5) starts</li> <li>• The Stack Tray does not leave the Stack Tray Sheet Height Sensor (S10) even after the Ascending/Descending Motor (M5) starts.</li> </ul>

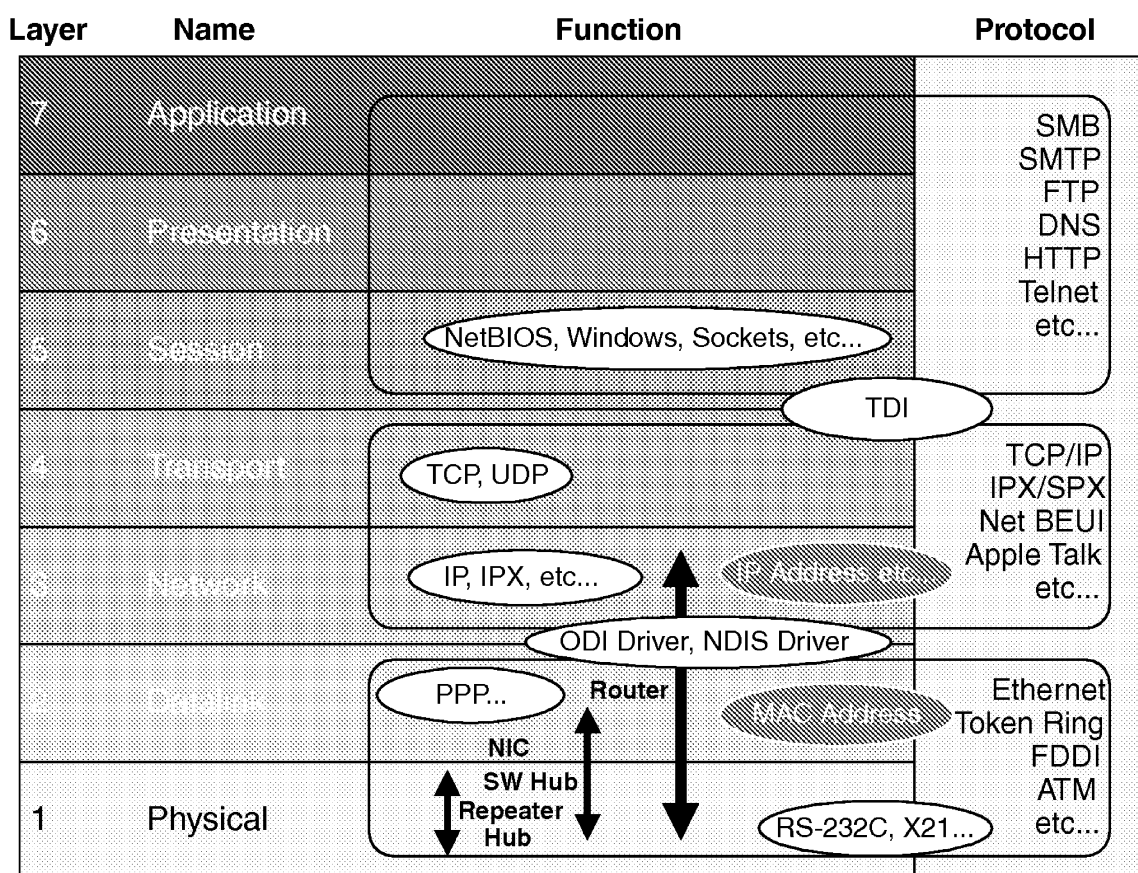
# 11 General Network Information

## 11.1. Network Protocol

### 11.1.1. OSI Reference Mode

Having a model in mind helps you understand how the pieces of the network puzzle fit together. The most commonly used model is the Open System Interconnection (OSI) reference model. The OSI model, first released in 1984 by the International Standards Organization (ISO), provides a useful structure for defining and describing the various processes underlying networking communications.

The OSI model organizes communication protocols into seven layers. Layer 1, the Physical (Hardware) layer, consists of protocols that deal with how data is transferred across the transmission media. At the opposite end, Layer 7, the Application layer, interfaces the network services with the applications (software) in use on the computer. The five layers in between, Data Link, Network, Transport, Session and Presentation - perform intermediate communication tasks. In essence the OSI model is a framework that describes how a function from one computer is transmitted to another computer on the network.



OSI Reference Model and Network Terms

### 11.1.2. Protocol

One reason for the popularity of TCP/IP is that no one vendor owns it, unlike the IPX/SPX, DNA, SNA or Apple Talk protocol suites, all of which are controlled by specific companies. TCP/IP evolved in response to input from a wide variety of industry sources. Consequently, it is the most open of the protocol suites and is supported by the widest variety of vendors. One huge advantage of using TCP/IP is that, it is required for communication over the Internet, thus the Internet can be used as a communication backbone.

TCP/IP was originally designed by ARPANET (Advanced Research Project Agency) in 1969 for the UNIX operating system. In early 1980, UNIX 4.2 BSD version was released. For more detailed information, an RFC (Request for Comment) document is available from the IETF (Internet Engineering Task Force) on the Internet at <http://www.ietf.org/>.

The Internet protocols do not map cleanly to the OSI reference model. The model for the Internet protocol suite has four layers. From the illustration below, you can see the approximate relationship of the layers.

Layer	OSI Reference Model	TCP/IP Base	Function
7	Application	Application	This layer embraces functions of the OSI Session, Presentation and Application layers. Protocols at this layer provide network services.
6	Presentation		
5	Session		
4	Transport	Transport	Compares to OSI Transport layer. Enables peer communication between hosts on the internetwork.
3	Network	Internet	Corresponds roughly to the OSI Network layer. Protocols move data between devices on networks.
2	Data Link	Network Interface	Corresponds to the bottom two layers of the OSI model. This correspondence enables the TCP/IP protocols to coexist with existing Data Link and Physical layer standards. This layer is concerned with all aspects of transmitting and receiving data on the network.
1	Physical		

**Comparison of the TCP/IP layers to the OSI model**

### 11.1.3. Cable

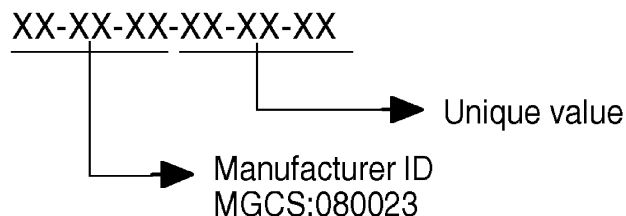
For the network transmission media at the Physical layer on the OSI reference model, there are several cable categories available. Category 5, 8 wire Unshielded Twisted Pair (UTP) cable is commonly used. Shielded Twisted Pair cables are also available. The Impedance for the STP / UTP Ethernet cable is 100  $\Omega$ . Category 3 is also used for the 10Base-T Ethernet.

Category	Purpose
1	Voice grade telephone line
2	ISDN
3	10Base-T Token Ring (4M)
4	Token Ring (16M)
5	100Base-TX, ATM (155M)

## 11.2. Layer Functions and Technology

### 11.2.1. MAC (Media Access Control)

The MAC address is burnt into each network card for establishing addresses for nodes on the network. These addresses are hexadecimal in nature and are unique for each card. The First three bytes from the left end identify the manufacturer's code that must be approved by IEEE (Institute of Electrical and Electronics Engineers). The Remaining three bytes on the right half should be kept in a unique manner. For Ethernet connections, multiple stations share the topology, therefore, the identification packet from each station should be unique.



### 11.2.2. Network Control

CSMA/CD (Carrier Sense Multiple Access with Collision Detection) If a node is trying to make a link to the network, transmission from another station is prohibited and halted until the data transfer is completed and the link is off. CSMA/CD and Token Passing are typical techniques used to control the connection. The General sequence is as follows:

Wait for the next available timing to send,  
Send out a frame,  
Perform collision sensing simultaneously,  
Retry to send the same frame up to 16 times if necessary.  
(Sequence goes by a binary exponential back-off algorithm to avoid periodical incident)

### 802.3 (Ethernet) frame format

← Most significant bit			Least significant bit →		
Pre-amble 8 byte	Destination MAC address 6 byte	Source MAC address 6 byte	Data type 2 byte	Data 46~1500 byte	FCS 4 byte

Destination MAC address: 6 byte (uni-cast or broadcast)

If all "1" on 6 byte (FF-FF-FF-FF-FF-FF) means broadcast frame, it is detected by an applicable node, it must be passed to the upper layer.

Also, if the destination MAC address is not matched with that node, the frame is discarded at that node immediately.

### Token Passing

Token passing utilizes a frame called a token, which circulates around the network. A computer that needs to transmit must wait until it receives the token, at which time the computer is permitted to transmit. When the computer is done transmitting, it passes the token frame to the next station on the network.

The first station that is powered up on a token-ring network automatically becomes the active monitor station. Its responsibility is to announce itself to the next active downstream station as the active monitor station and request that station to announce itself to its next active downstream station. After each station announces itself to its next active downstream neighbor, the announcing station becomes the nearest active upstream neighbor (NAUN) to the downstream station. After each station becomes aware of its NAUN, the beaconing process continues every seven seconds.

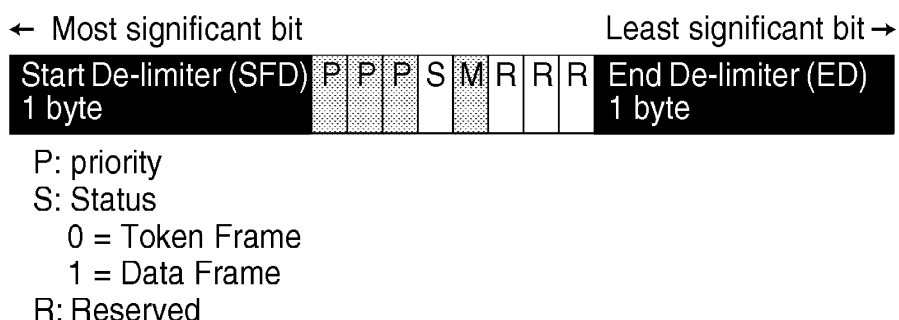
A computer in the ring captures the token, if it has data to transmit, it holds the token and transmits a data frame. This data frame is passed to each computer in the ring, which checks whether it is the intended recipient of the frame.

When the frame reaches the destination address, the destination PC copies the frame to a receive buffer, updates the frame status field of the data frame and puts the frame back on the ring. When the computer that originally sent the frame receives it back from the ring, it acknowledges a successful transmission, takes the frame off the ring, and places the token back on the ring.

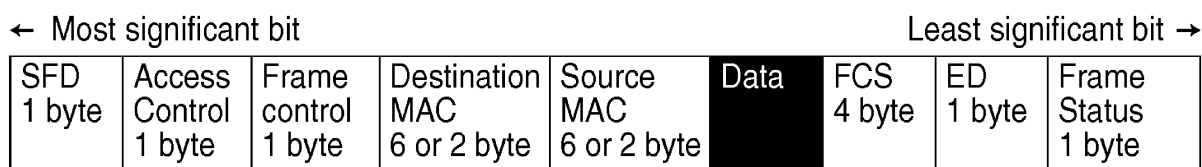
Token Frame indicates that the network is available for transmission.

Data Frame indicates that the network is busy processing a transmission.

### Token Frame format



### Data Frame format



Data: Max 4429 byte (4M)  
 Max 17779 (16M)

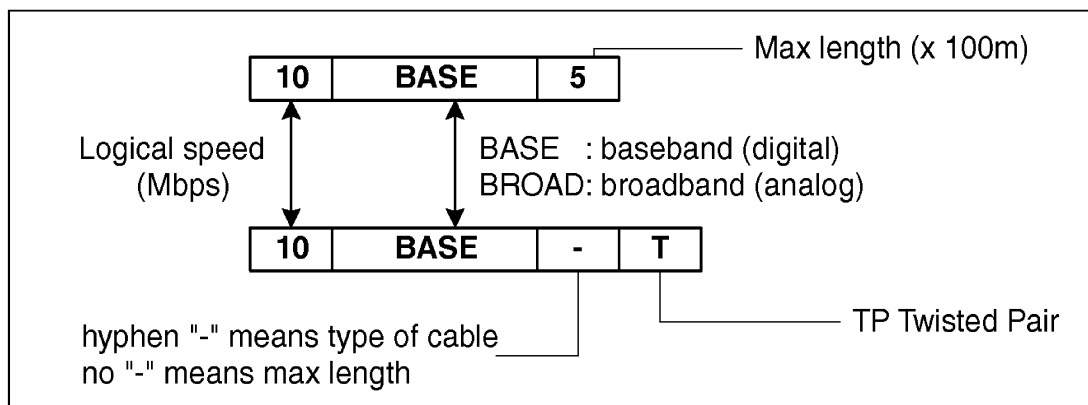
There are several different bit types assigned for Frame Status. For example, 1 and 5 bit indicates that the token has been read, 2 and 6 bit indicates that the frame has been copied by another station. Thus, we can confirm whether the Data Frame was delivered.

### 11.2.3. Ethernet

Ethernet is a very popular local area network architecture based on the CSMA/CD access method. The original ethernet specification was the basis for the IEEE 802.3 specifications. Typically, ethernet networks can use a bus physical topology, although, many varieties of ethernet such as 10Base-T uses a star physical topology and a bus logical topology. (Microsoft uses the term "star bus topology" to describe 10Base-T)

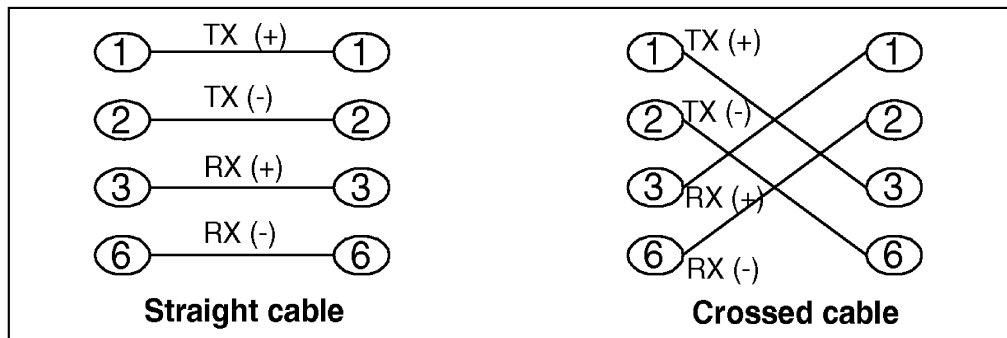
	Speed (bps)	Topology	Cable type	Max length
10Base-5	10M	Bus	Yellow cable	500 m (1640 ft)
10Base-T	10M	Star	Twisted Pair (Cat. 3, 4, 5)	100 m (328 ft)
100Base-TX	100M	Star	Twisted Pair (Cat. 5)	200 m (656 ft)

#### 802.3 (CSMA/CD) Network Type



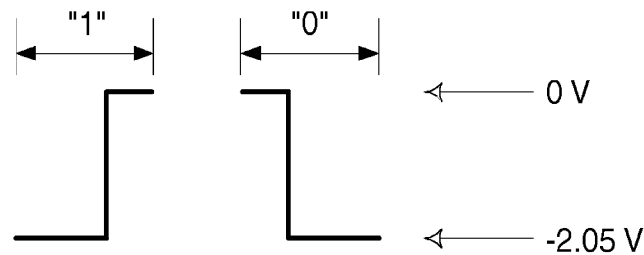
#### Ethernet Configuration





### Ethernet Cable Pin Configuration

All eight pins on the Ethernet cable are normally wired in this configuration accordingly. The Electrical level follows the Manchester code configuration.



Out of balance in electrical levels indicates that a collision is occurring in a certain area. To avoid further malfunctions, terminating the physical end is required for coaxial cables.

If a collision is detected, transmission is stopped and a maximum of 4.8 usec of JAM packet is sent. The node that receives the JAM packet, discards the applicable received data. The maximum timing for collision detection is called slot time, normally set to 49.9 usec. The interval of 9.6 usec to 10 usec after the end of transmission frame is reserved for non-transmission period.

There are several merits to Ethernet wiring, the physical connection is easy and flexible for future expansion due to the star topology.

#### 11.2.4. Repeater

The main purpose of a repeater is to extend the maximum range for the network cabling. They operate at the OSI Physical layer, and do not filter or interpret the signal - they merely repeat (regenerate) the signal, passing all network traffic in all directions.

They perform signal amplitude, delete errors and reschedule the timing. Repeaters also follow the 5-4-3 rule, where no more than 5 network segments connected by 4 repeaters, with no more than 3 of the segments being populated.

Active Hubs function in part as repeaters (amplify and regenerate network signals), they occasionally are called multiport repeaters.

#### 11.2.5. NIC (Network Interface Card)

NIC is an acronym for Network Interface Card, which plugs into a computer and adapts the network interface to the appropriate standard. ISA, PCI, and PCMCIA cards are all examples of NICs.

## 11.3. Network Layer

### 11.3.1. IP Address

An IP address is a set of four numbers, or octets, that can range in value between 0 and 255. Each octet is separated by a period (i.e. 192.168.31.1). All devices on a network that runs the TCP/IP protocol suite need a unique IP address. Most machines use a Domain Name, which are easier for people to remember. The IP addresses are actually broken down into three distinct classes, known as class A, class B and class C addresses.

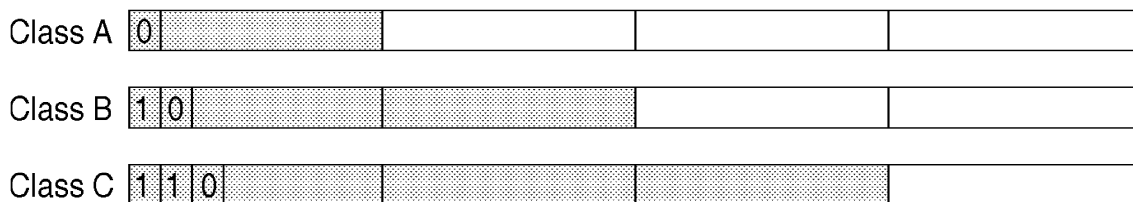
Class A IP addresses contain a number between 1 and 127 before the first dot. In class A address, this first octet represents the network address, and the last three octets represent the node or host number.

Class B IP addresses can range in value from 128 to 191 for the first octet, but it is the first two octets that make up the network address, and the last two octets that make up the host ID.

Class C IP addresses can range in value from 192 to 223 for the first octet, and the first three octets make up the host ID.

There are class D and E addresses as well. For these addresses, the first octet is a number greater than 223. These addresses are not currently available to be used and are reserved for other purposes.

Class A : First octet reserved for the network address  
Class B : First two octets reserved for the network address  
Class C : First three octets reserved for the network address



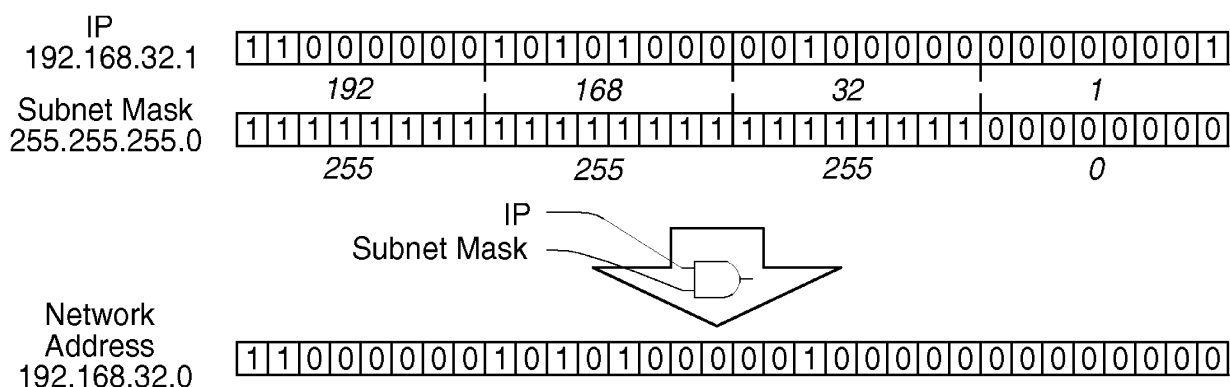
Network address represented as [shaded]

Private networks that do not connect to the Internet (operate internally) allow additional flexibility with IP addresses. Three classifications are available as shown below:

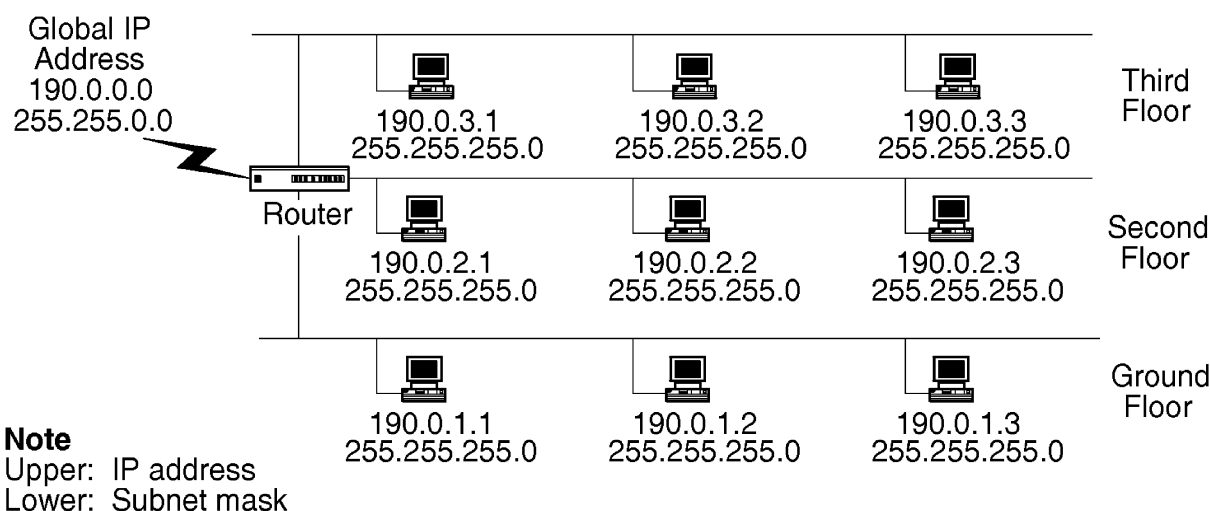
Class A : 10.0.0.0 - 10.255.255.255  
Class B : 172.16.0.0 - 172.31.255.255  
Class C : 192.168.0.0 - 192.168.255.255

### 11.3.2. Subnet Mask

A subnet mask defines how sub-segments of a network are treated.



#### Network Address Configuration



#### Class B Subnet Outline

For network management purposes, special IP addresses are assigned.

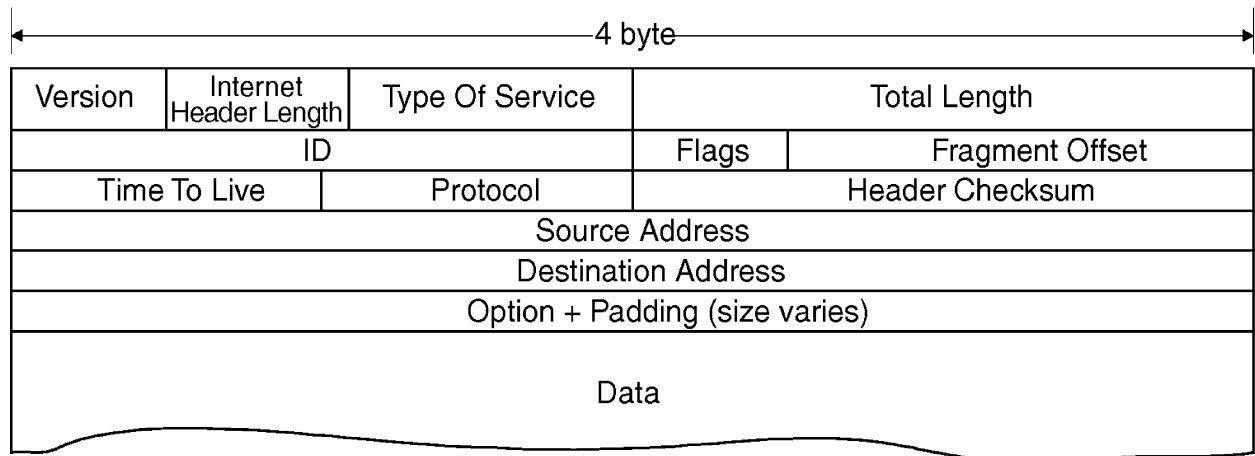
1. Host address is set to all "0"
2. Host address is set to all "1"  
Reserved for IP broadcasting to all subnet stations.
3. All 4 octets are set to all "1"  
IP broadcast of 255.255.255.255 can be passed over the router when the network address is specified.  
Normally, this is used for DHCP (Dynamic Host Configuration Protocol) network.
4. All 4 octets are set to all "0"  
Reserved for default route for non-destination address
5. Most significant bit starting with "127"  
Reserved for loop back address

### 11.3.3. Internet Protocol

The IP (Internet Protocol) operating at the OSI Network layer, is a connectionless protocol that provides datagram service, and IP packets are most commonly referred to as IP data grams.

It performs the following typical functions:

1. Identifies the IP address
2. Packet disassembly and reassembly of the IP datagram
3. Routing of the IP address



**IP Datagram**

Terms	Detail
Version	Currently version 4
Internet Header Length	IP Header field length
Type Of Service	Service priority requested by IP Datagram (3 bits are reserved for precedence)
ID	Identification frame number for upper layer communication
Flags	Packet disassembly information
Fragment Offset	Offset from most significant bit
Time To Live	Decrement the counter until 0 every time packet pass over the router
Protocol	Upper layer protocol identification number. ie TCP (06h), UDP (11h)
Header Checksum	Checksum is used for error checking on the header data
Source Address	Sender's IP Address
Destination Address	Destination's IP Address
Option	When implemented
Padding	Fill bit field to add up to 32 bit

### 11.3.4. Router

Routers, operating at the OSI Network layer, organize the large network in terms of logical network segments. Each network segment is assigned an address so that every packet has both a destination network address and a destination device address.

Routers are more intelligent than bridges. Not only do routers build tables of network locations, but they also use algorithms to determine the most efficient path for sending a packet to any given network by identifying its header information.

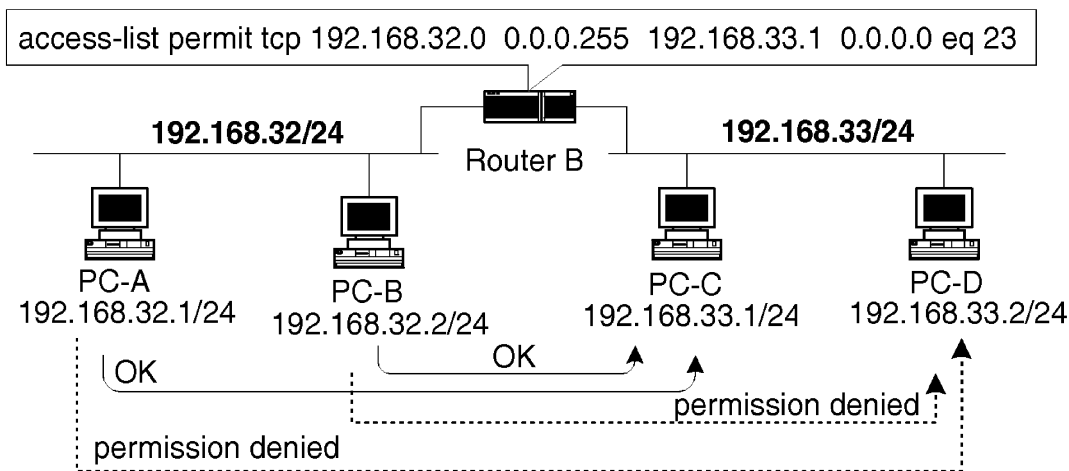
These are the typical functions:

#### 1. Routing

This controls the traffic according to a specified routing table.

#### 2. Packet Filtering

This performs the access and security control for specified routing.



**Packet Filtering Sample**

#### 3. Address conversion

NAT (Network Address Translator), This performs conversion of a single global IP Address from/to single private IP Address.

#### 4. IP Masquerade:

This performs a conversion of single global IP Address from/to multiple private IP Address.

At the same time the port number is automatically assigned.

Occasionally, the conversion creates a bottleneck in the network overhead. For a typical solution, PIX (Private address Internet address exchange) is available from Cisco, which is a well-known manufacturer.

#### 5. Designated replies

These are replies that keep a connection alive by responding with a signal periodically.

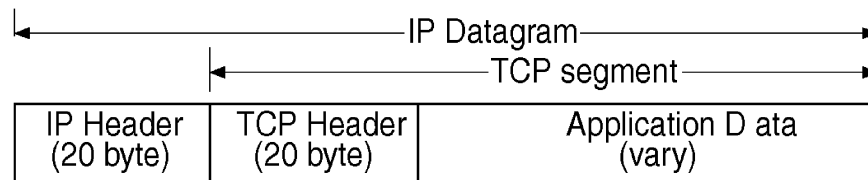
Watch Dog in IPX/SPX, TCP/IP in TCP, and Net BT (NetBIOS on TCP/IP) in Windows NT are all well known techniques to keep a live connection.

## 11.4. Transport Layer

### 11.4.1. TCP (Transmission Control Protocol)

The TCP (Transmission Control Protocol) is an internetwork connection-oriented protocol that corresponds to the OSI Transport layer. TCP provides full-duplex, end-to-end connections. When the end-to-end communication acknowledgement is not required, the UDP (User Datagram Protocol) can be substituted for the TCP at the Transport (host-to-host) level. TCP and UDP operate at the same layer.

The UDP is a connectionless oriented protocol.



### TCP Segment in IP Datagram

Source Port (2 byte)			Destination Port (2 byte)		
Sequence Number (4 byte)					
Acknowledgment Number (4 byte)					
Header Length (4 bit)	Reserved (6 bit)	Control Flag (6 bit)	Window (6 byte)		
Checksum (2 byte)			Urgent Pointer (2 byte)		
Option					PAD
Data (Segment)					

### TCP Segment Outline

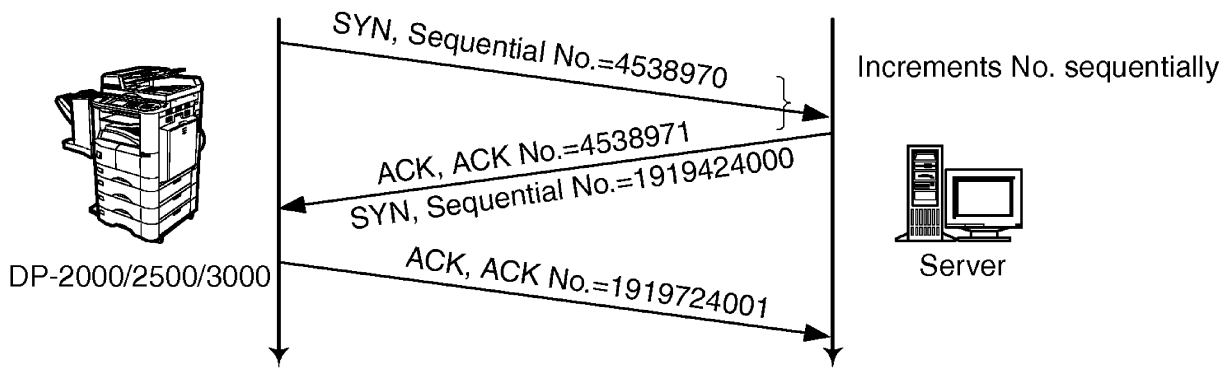
1	Ok	[172.21.11.21]	[133.185.245.102]	TCP	D=110 S=23900 SYN SEQ=4538970 LEN=0 WIN=2144 64
2	Ok	[133.185.245.102]	[172.21.11.21]	TCP	D=23900 S=110 SYN ACK=4538971 SEQ=1919424000 64
3	Ok	[172.21.11.21]	[133.185.245.102]	TCP	D=110 S=23900 ACK=1919424001 WIN=2144 64

TCP: ----- TCP header -----	
TCP:	
TCP: Source port	= 23900
TCP: Destination port	= 110 (POP3)
TCP: Initial sequence number	= 4538970
TCP: Data offset	= 24 bytes
TCP: Flags	= 02
TCP:	...0... = (No urgent pointer)
TCP:	...0... = (No acknowledgment)
TCP:	...0... = (No push)
TCP:	...0... = (No reset)
TCP:	...1... = SYN
TCP:	...0... = (No FIN)
TCP: Window	= 2144
TCP: Checksum	= 00AE (correct)
TCP:	
TCP: Options follow	
TCP: Maximum segment size	= 536
TCP:	

TCP 3 way handshake

### TCP Header Monitoring Sample



### TCP 3 Handshake General Flowchart

The client (DP-2000/2500/3000) generates random sequential numbers initially and sends them to the server. The initial sequential numbers are synchronized with the clock and increments the counter every 4 msec.

The Server responds with an acknowledgement that increments the initial sequential number by one. The ACK bit number is also changed to a "1" value. The "SYN" can have an identical "ACK" response for each packet, thus, the server and the client can establish a connection.

## 11.5. Upper Layer

### 11.5.1. DNS (Domain Name System)

The DNS (Domain Name System) protocol provides host name and IP address resolution as a service to client applications. DNS servers enable humans to use logical node names, utilizing a fully qualified domain name structure, to access network resources.

Domain Names are comprised of 2 or more parts, separated by dots. The part on the left is the most specific, and the part on the right is the most general. A given device may have more than one Domain Name but a given Domain Name points to only one device. For example, the Domain Names below :

Panasonic.com  
Mail.panasonic.com  
ifax.panasonic.com

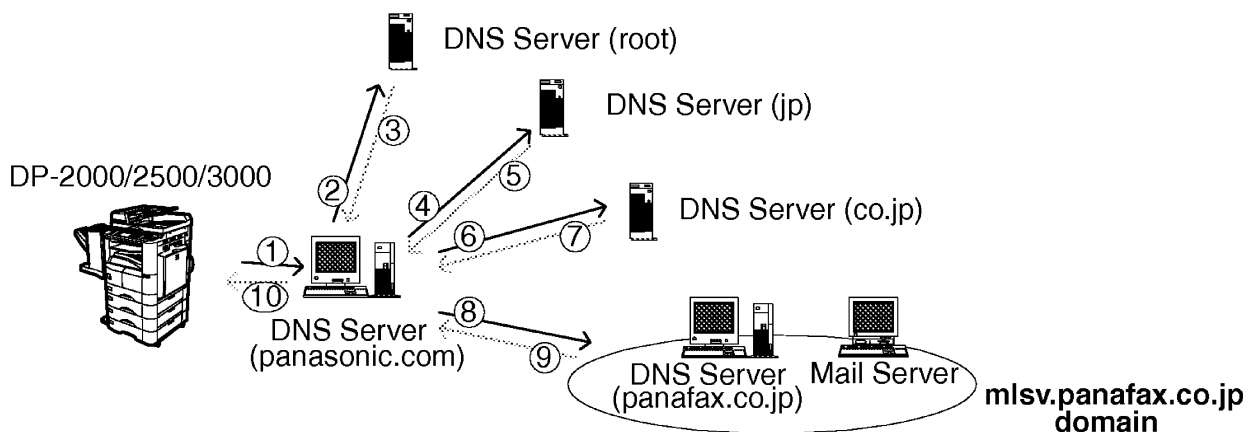
can all refer to the same device, but each domain name can refer to no more than one device.

Usually, all of the devices on a given network will have the same right-hand portion of their Domain Names (i.e. panasonic.com in the examples above). It is also possible for a Domain Name to exist but not be connected to an actual device.

This is often done so that a group or business can have an Internet email address without having to establish a real Internet site. In these cases, some real Internet machine must handle the email on behalf of the listed Domain Name.

Specification for this name system follows this basic guideline.

- The name must be separated by dots and must start with ASCII code.
- Only Alpha numeric and hyphen are available.
- Up to 63 characters maximum, separated by dots.
- Up to 255 characters maximum, including all dots.
- Capital letters and small letters are not identical. (Case Sensitive.)



**DNS Name Resolution Sample**

The advantage of using a DNS server over a host lookup table, for host name resolution, is to avoid the need for a single centralized clearinghouse for all names. The authority for this information can be delegated to different organizations on the network responsible for it.

There are at least 10 Root DNS servers installed all over the world.



The Name resolution flow is shown in the illustration above and follows the sequence below:

1. Query the local DNS Server.
2. Query the root DNS Server because the domain belongs to a destination outside of the company.
3. Com root DNS Server sends the query to the jp root DNS Server.
4. The procedure repeats until a final name resolution is available.
5. The panafax.co.jp server responds with an IP address for the query name.
6. Finally, the name resolution is completed and the destination IP address is determined.

All DNS servers makes an effort to resolve the query name with an IP address, however, a response is not always sent out every time. Once a name resolution is completed, the information from the DNS Server IP address table is kept in cache memory at each DNS server in accordance with a minimum TTL (Time To Live) of SOA (Start Of Authority) record. There are two types of Name Servers, Primary and Secondary Name Server.

#### **11.5.2. Primary Name Server**

A primary server has the original copy of a zone file. Any changes made to the zone file are made to the copy on the primary server. When a primary server receives a query about a host name in its own zone, it retrieves the host resolution locally from its own zone files.

#### **11.5.3. Secondary Name Server**

A secondary server gets a copy of zone files from another server. This zone file is a read-only copy of the original file from the primary server. Any changes made to the zone file are made at the primary server, then the changes are copied down to the secondary server through a zone transfer. Multiple secondary servers in a domain improves performance.

#### 11.5.4. SOA (Start of Authority) Record

Each database file starts with a Start of Authority (SOA) record for the file. This record specifies the zone's primary server, the server that maintains the read/write copy of the file. The syntax of this record is as follows:

IN SOA <source host><contact email><serial No.><refresh time><retry time><expiration time><TTL>

**An example of the syntax is shown below:**

```
;
;
File:      db.127.0.0 file
;
Purpose:   This file establishes the identity of this DNS.
;          SOA stands for 'start of authority' and sets the
;          default parameters for information this DNS is
;          authoritative for:
;
;
@           IN SOA      nwr42.rdmg.mgcs.mei.co.jp. hostmaster.rdmg.mgcs.mei.co.jp. (
951213      ; serial number
43200       ; refresh every 12 hours
7200        ; retry after 2 hours
1209600     ; expire after 2 weeks
172800)     ; default ttl is 2 days
;
;
IN NS       nwr42.rdmg.mgcs.mei.co.jp.
1           IN PTR      localhost.rdmg.mgcs.mei.co.jp.
;
;
```

SOA Record (Bind 4.9.5 for NT) in "db.127.0.0" file

The "@" symbol in this example indicates the local server; "IN" indicates an Internet record. The FQDN for the name server NWR18 must end in a period. Note that the email address for the administrator must have a period instead of the "@" symbol. Also, if the SOA record is on more than one line, an open parenthesis must end the first line, and a close parenthesis must end the last line.

The following list explains the other parameters:

- \* **Source host:** The name of the host that has the read/write copy of the zone file.
- \* **Contact email:** The Internet email address of the person who maintains this file. This address must be expressed with a period instead of the "@" that is usually found in email addresses (i.e. hostmaster.rdmg.mgcs.mei.co.jp instead of hostmaster@rdmg.mgcs.mei.co.jp).
- \* **Serial number:** A version number for the zone file. This number should be changed each time the zone file changes, it changes automatically if you use DNS Manager to change the zone file.
- \* **Refresh time:** The time, in seconds, that a secondary server waits before checking the master server for changes to the database file. If the file has changed, the secondary server requests a zone transfer.
- \* **Retry time:** The time, in seconds, that a secondary server waits before trying again if a zone transfer fails.
- \* **Expiration time:** The time, in seconds, that a secondary server keeps trying to transfer a zone. After the expiration time passes, the old zone information is deleted.
- \* **TTL:** The time, in seconds, that a server can cache resource records from this database file. The TTL is sent as part of the response for any queries that are answered from this database file. An individual resource record can have a TT: that overrides this value.

### 11.5.5. A (Address) Record

The A (Address) Record, lists the addresses for a given machine. The name field is the machine's name and the address is the network address. There should be one A record for each address on the machine.

```
; BIND version named 4.9.5-Rel+-Monday-11-November-96
; BIND version GregSchueman-LarryKahn-VirajBais
; zone 'rdmg.mgcs.mei.co.jp' last serial 720
; from 133.185.245.7 at Sun Sep 12 19:11:35 1999
$ORIGIN mgcs.mei.co.jp.
rdmg      IN      SOA      nwmgr.mgcs.mei.co.jp. postmaster.rdmg.mgcs.mei.co.jp. (
          721 10800 3600 604800 86400 )
          IN      NS       nwmgr.mgcs.mei.co.jp.
          IN      MX       10 mlsv2.rdmg.mgcs.mei.co.jp.
$ORIGIN rdmg.mgcs.mei.co.jp.
ifax-gz03 IN      A        172.21.94.216
qmc-cco1  IN      A        133.185.254.212
ifaxos01 IN      A        172.21.97.26
ifpdyna   IN      A        202.244.202.29
```

A Record (Bind 4.9.5 for NT) in "db zone.info" file

### 11.5.6. PTR (Pointer) Record

Pointer records are the reverse-lookup file entries that enable IP addresses to be resolved to host names. DNS is used to resolve host names to IP addresses, so the opposite process is called reverse lookup.

They specify the IP address in reverse order (like a DNS name, with the most specific information first) and then corresponding host name. The files are named according to the class of network, but with the octets in reverse order. The syntax for a PTR record is shown below:

<ip reverse domain name> IN PTR <host name>

```
1      IN NS      nwr42.rdmg.mgcs.mei.co.jp.
;      IN PTR     localhost.rdmg.mgcs.mei.co.jp.
```

PTR record (Bind 4.9.5 for NT) in "db.127.0.0" file.

### 11.5.7. CNAME (Canonical Name) Record

The CNAME (or canonical name) record is an alias (nickname), enabling you to specify more than one name for each IP address. The syntax of a CNAME is shown below:

<alias name> CNAME <host name>

Using CNAME records, you can combine an FTP and a Web server on the same host. Nicknames are useful when a well-known host changes its name. In this case, it's usually a good idea to have a CNAME record so people still using the old name, will get to the right place.

### 11.5.8. NS (Name Server) Record

The Name Server record specifies the other name servers for a domain. The syntax for a name server record is shown below:

```
<domain> IN NS <nameserver host>
```

An example of a name server record follows below:

```
@ IN NS nwmgr.mgcs.mei.co.jp
```

The "@" symbol indicates the local domain. The server "nwmgr" in the domain "mgcs.mei.co.jp" is the name server.

### 11.5.9. MX (Mail Exchange) Record

The Mail Exchange (MX) record specifies the name of the host that processes mail for this domain. If you list multiple mail servers, you can set a preference number (value) that specifies the order in which the mail server should be used. Note that lower values indicate higher precedence, and that mailers are supposed to randomize same-value MX hosts so as to distribute the load evenly if values are equal. If the first preferred mail server does not respond, the second one is contacted, and so on.

If you want a host to receive its own mail, you should create an MX record for your host's name, pointing at your host's name. The syntax of this record is shown below:

```
<domain> IN MX <preference> <mailserver host>
```

For a more detail, please refer to RFC974 document at URL <http://www.ietf.org/>.

### 11.5.10. Reverse Lookup

This is a special domain for allowing address to name mapping. As Internet host addresses do not fall within domain boundaries, this special domain was formed to allow inverse mapping. The IN-ADDR.ARPA domain has four labels preceding it. These labels correspond to the 4 octets of an Internet address. All four octets must be specified even if an octet contains zero. The Internet address 128.32.0.4 is located in the domain 4.0.32.128.IN-ADDR.ARPA. This reversal of the address is awkward to read but allows for the natural grouping of hosts in a network.

### 11.5.11. Forwarding

A Slave Server is a server that always forwards queries it cannot satisfy from its cache, to a fixed list of forwarding servers instead of interacting with the name servers for the root and other domains. The queries to the forwarding servers are recursive queries. There may be one or more forwarding servers, and they are tried in turn until the list is exhausted. A Slave and forwarder configuration is typically used when you do not wish all the servers at a given site to interact with the rest of the Internet servers. A typical scenario would involve a number of workstations and a departmental timesharing machine with Internet access. The workstations might be administratively prohibited from having Internet access. To give the workstations the appearance of access to the Internet domain system, the workstations could be Slave servers to the timesharing machine, which would forward the queries and interact with other name servers to resolve the query before returning the answer. An added benefit of using the forwarding feature is that the central machine develops a much more complete cache of information that all the workstations can take advantage of. The use of Slave mode and forwarding is discussed further under the description of the named bootfile commands.

There is no prohibition against declaring a server to be a slave even though it has primary and/or secondary zones as well; the effect will still be that anything in the local server's cache or zones will be answered, and anything else will be forwarded using the forwarders list.

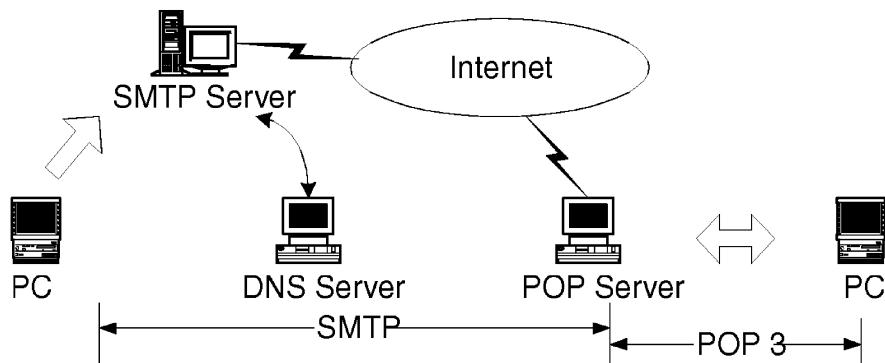
For more detail, please refer to published book (i.e. DNS and BIND etc) provided from O' Reilly & Associates, Inc.

## 11.6. SMTP (Simple Mail Transfer Protocol)

The objective of Simple Mail Transfer Protocol (SMTP) is to transfer mail reliably and efficiently. SMTP is independent of the particular transmission subsystem and requires only a reliable ordered data stream channel.

The SMTP design is based on the following model of communication: as the result of a user mail request, the sender-SMTP establishes a two-way transmission channel to a receiver-SMTP. The receiver-SMTP may be either the ultimate destination or an intermediate. SMTP commands are generated by the sender-SMTP and sent to the receiver-SMTP. SMTP replies are sent from the receiver-SMTP to the sender-SMTP in response to the commands. Once the transmission channel is established, the SMTP-sender sends a MAIL command indicating the sender of the mail. If the SMTP-receiver can accept mail it responds with an OK reply.

The SMTP-sender then sends a RCPT command identifying a recipient of the mail. If the SMTP-receiver can accept mail for that recipient it responds with an OK reply, if not, it responds with a reply rejecting that recipient (but not the whole mail transaction). The SMTP-sender and SMTP-receiver may negotiate several recipients. When the recipients have been negotiated the SMTP-sender sends the mail data, terminating with a special sequence. If the SMTP-receiver successfully processes the mail data it responds with an OK reply. The dialog is purposely lock-step, one-at-a-time. For more detail, please refer to the URL <http://www.imc.org/rfc821>



**Internet Mail Sending and Receiving**

### 11.6.1. Mail Header Sample

Received: from nwr35 by labo.mgcs.com (8.9.3/3.7W-RDMG) with SMTP id PAA09157 for <freeport@labo.mgcs.com>; Sun, 12 Sep 1999 15:04:48 +0900 (JST)	Delivery route
Date: Sun, 12 Sep 1999 15:04:48 +0900 (JST)	
Message-Id: <199908200604.PAA09157@mlsv2.labo.mgcs.com>	Message ID
Mime-Version: 1.0	
X-Mailer: Internet FAX, MGCS	
From: "MGCS" <ifax98-us@labo.mgcs.com>	
Subject: IMAGE from Internet FAX	
To: freeport@labo.mgcs.com	
Content-Type: multipart/mixed; boundary="+++-MGCS-++-"	Content-Type
X-UIDL: 8f32e4b1d691fdcf28daa812d913f572	

## 11.7. ITU T.37 and RFC2305

### 11.7.1. Mode of operation

The DP-2000/2500/3000 conforms to the ITU T.37 standards and RFC2305. This Internet store and forward facsimile uses approved IETF protocols for posting, relaying and delivery of documents. It requires no changes to Internet standards or to ITU Facsimile Recommendations.

Store and forward facsimiles may operate in one of two modes.

Communicating in the Simple Mode as defined below provides inter operability. All terminals conforming to this recommendation and capable of reception must be able to receive in Simple Mode. It is recommended that terminals conforming to this recommendation and capable of transmitting should, as a minimum, be capable of transmitting in Simple Mode.

Simple Mode supports the transfer of image data. Capability exchange and confirmation of receipt are not required for Simple Mode but may be provided using optional email functions outside the scope of this recommendation.

### 11.7.2. Implementation Requirements for T.37 Simple Mode Table

#### Sender

Required	Send data as a single MIME multi-page TIFF Profile S file Provide notice in case of local transmission problem Provide a return address of an Internet email receiver which is MIME compliant
Strongly recommended	Include Message-ID Use Base 64 encoding for image data
Optional	Use other TIFF Profiles if it has prior knowledge that such profiles are supported by the receiver Provide notice on receipt of DSN or other notifications

#### Receiver

Required	Be MIME compliant except that it is not required to offer to place MIME attachment in a file and may print a received file rather than display
	Be capable of processing multiple MIME TIFF Profile S image files within a single message
	Provide notice in case of reception or processing problems
Optional	Use other TIFF Profiles

### Offramp Gateway (when implemented)

Required	Be SMTP compliant
	Provide delivery failure notification
	Be able to process PSTN/FAX email address
	Comply with the relevant ITU Recommendations relating to facsimile transmission
	Attempt to relay authorized email to the corresponding G3 facsimile terminals
	Ensure DSN for delivery failure notification
Strongly recommended	Use DSN for delivery failure notification
	Use an approved mailbox access protocol when serving multiple users
Optional	Translate image data into a format acceptable by the receiving G3 facsimile terminal
	Use a mailbox access protocol when serving a single mail recipient

### 11.7.3. Definitions and Abbreviations

IETF	Internet Engineering Task Force
RFC	Request For Comment
MIME	Multipurpose Internet Mail Extensions
POP3	Post Office Protocol version 3
SMTP	Simple Mail Transfer Protocol
DSN	Delivery Status Notification
MDN	Message Disposition Notification
TIFF	Tagged Image File Format
IFD	TIFF Image File Directory
Offramp gateway	Equipment capable of receiving email and relaying to one or more G3/G4 facsimile terminals
Mailstore	Equipment capable of receiving email and storing it for retrievals by receiver
Notice	Provision of status information to the originator or recipient in a manner to be determined by the device

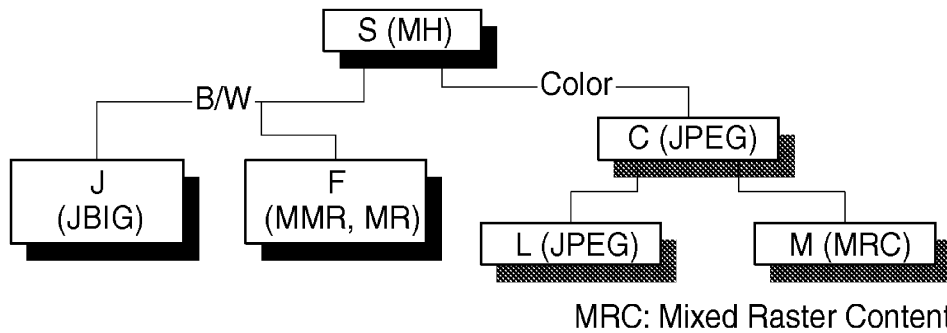
**RFC reference <http://www.imc.org/ietf-fax/>**

File Format for Internet Fax	RFC2301
Tag Image File Format (TIFF) image/tiff MIME Sub-type Registration	RFC2302
Minimal PSTN address format in Internet Mail	RFC2303
Minimal FAX address format in Internet Mail	RFC2304
A simple Mode of Facsimile Using Internet Mail	RFC2305
Tag Image File Format (TIFF)-F Profile for facsimile	RFC2306

#### 11.7.4. File Format for Internet Fax

Sending Internet Fax devices must be able to write minimum set TIFF files, according to the rules for creating minimum set TIFF files defined in TIFF for Facsimile (the S profile) [RFC2301], which is also compatible with the specification for the minimum subset of TIFF-F in [RFC2306]. Receiving Internet Fax devices MUST be able to read minimum set TIFF files.

The Following tree diagram shows the relationship among profiles and between profiles and coding methods.



A profile is based on a collection of ITU-T facsimile coding methods.

Class	Color	Coding method	Remarks
S	B/W	MH	Internet Fax minimal set
F	B/W	MMR, MR	Internet Fax full mode
J	B/W	JBIG	Internet Fax mixed mode
C	Color	JPEG (lossy)	Color minimal set
L	Color	JPEG (lossless, grayscale)	One bit per color, palletized color image, continuous tone color and grayscale images
M	Color	Mixed Raster Content	Multiple coders and resolution within a page



### 11.7.5. Minimal Set

The minimum interchange set of TIFF fields that must be supported by all implementations in order to assure that some form of an image, albeit black-and-white, can be interchanged.

The table below summarizes the TIFF fields that comprise the minimal interchange set for black-and-white facsimile. The Baseline and Extenuation fields and fields values must be supported by all implementations.

Baseline Fields	Values
Bits Per Sample	1
Compression	3:1 dimension MH coding set T4 Options = 0 or 4
Fill Order	Least significant bit first
Image Width	1728 (A-4)
Image Length	N: total number of scan lines in image
New Sub File Type	2: Bit 1 identifies single page of a multi-page document
Page Number	N, m: page number n followed by total page count m
Photometric Interpretation	0: pixel value 1 means black
Resolution Unit	2: inch
Rows Per Strip	Number of scan lines per strip = Image length, with one strip
Samples Per Pixel	1
Strip Byte Counts	Number of byte in TIFF strip
Strip Offsets	Offsets from beginnings of file to single TIFF strip
X Resolution	204, 200 (pixels/inch)
Y Resolution	98, 196, 100, 200 (pixels/inch)
Extensions Fields	
T4 Options	0: MH coding, EOLs not byte aligned 4: MH coding, EOLs byte aligned

### 11.7.6. Addressing

A simple method of encoding PSTN addresses in the local-part of Internet email addresses, along with an extension mechanism to allow encoding of additional standard attributes needed for email gateway to PSTN-based services.

- (1) Offramp ➡ **FAX= +12125551212@ panafax.com**
- Service selector      Global-phone      Domain
- (2) Sub address ➡ **FAX= +3940 / T33S=183 @ faxworld.org**
- Service selector      Global-phone      Selector      Sub address      Domain
- (3) Others ➡ **VOICE = +3940183@ panafax.com**
- Service selector      Global-phone      Domain

**Note:**

For RFC2305, a PSTN address in an email address should follow the above style. The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in RFC 2119. URL <http://www.imc.org/rfc2119>

**1. MUST**

This word, or the terms “REQUIRED” or “SHALL”, means that the definition is an absolute requirement of the specification.

**2. MUST NOT**

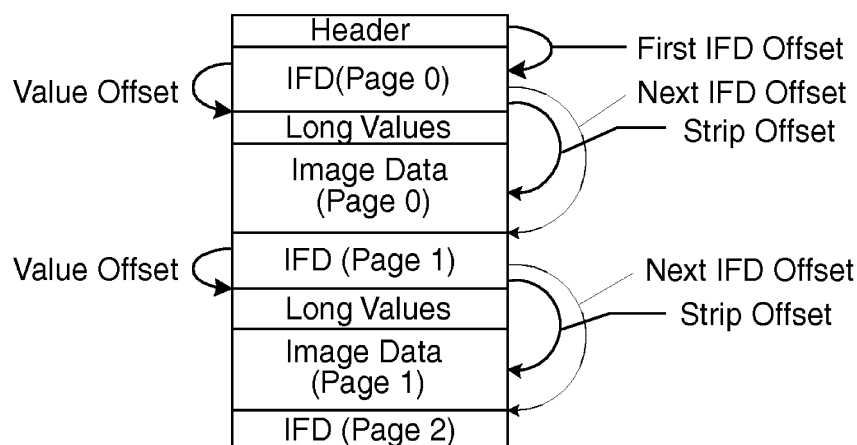
This phrase, or the phrase “SHALL NOT”, means that the definition is an absolute prohibition of the specification.

**3. SHOULD**

These words, or the adjective “RECOMMENDED”, means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.

**4. SHOULD NOT**

This phrase, or the phrase “NOT RECOMMENDED” means that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.

**11.7.7. Coding Example of a TIFF Header, IFD and Image data**

**File Structure**

14	Ok	mlsv2.rdmg.mgcs.mei.co.jp	nwr35 (Internet FAX)	SMTP	R PORT=25	250 <
15	Ok	nwr35 (Internet FAX)	mlsv2.rdmg.mgcs.mei.co.jp	SMTP	C PORT=25	RCPT
16	Ok	mlsv2.rdmg.mgcs.mei.co.jp	nwr35 (Internet FAX)	SMTP	R PORT=25	250 <
17	Ok	nwr35 (Internet FAX)	mlsv2.rdmg.mgcs.mei.co.jp	TCP	D=25 S=32424	
18	Ok	nwr35 (Internet FAX)	mlsv2.rdmg.mgcs.mei.co.jp	SMTP	C PORT=25	DATA
19	Ok	mlsv2.rdmg.mgcs.mei.co.jp	nwr35 (Internet FAX)	SMTP	R PORT=25	354 E
20	Ok	nwr35 (Internet FAX)	mlsv2.rdmg.mgcs.mei.co.jp	SMTP	C PORT=25	Text
21	Ok	mlsv2.rdmg.mgcs.mei.co.jp	nwr35 (Internet FAX)	TCP	D=32424 S=25	
22	Ok	nwr35 (Internet FAX)	mlsv2.rdmg.mgcs.mei.co.jp	SMTP	C PORT=25	Text
23	Ok	mlsv2.rdmg.mgcs.mei.co.jp	nwr35 (Internet FAX)	TCP	D=32424 S=25	

```

IP: Destination address = [133.185.245.7], mlsv2.rdmg.mgcs.mei.co.jp
IP: No options
IP:
TCP: ----- TCP header -----
TCP:
TCP: Source port          = 32424
TCP: Destination port    = 25 (SMTP)
TCP: Sequence number     = 54954
TCP: Acknowledgment number = 3085635849
TCP: Data offset         = 20 bytes
TCP: Flags                = 18
TCP:      ..0. .... = (No urgent pointer)
TCP:      ...1 .... = Acknowledgment
TCP:      .... 1... = Push
TCP:      .... .0.. = (No reset)
TCP:      .... ..0. = (No SYN)
TCP:      .... ...0 = (No FIN)
TCP: Window              = 2144
TCP: Checksum            = 2BAA (correct)
TCP: No TCP options
TCP: [220 byte(s) of data]
SMTP: ----- Simple Mail Transfer Protocol -----
SMTP:
SMTP: Line 1:  Mime-Version: 1.0
SMTP: Line 2:  Content-Type: multipart/mixed; boundary="++--MGCS-++--+"
SMTP: Line 3:  X-Mailer: Internet FAX, MGCS
SMTP: Line 4:  From: "MGCS" <ifax98-us@rdmg.mgcs.mei.co.jp>
SMTP: Line 5:  Subject: IMAGE from Internet FAX
SMTP: Line 6:  To: freeport@mgcs.mei.co.jp
SMTP: Line 7:
SMTP:

```

## Message Header Contents

### 11.7.8. Delivery Failure

In the event of relay failure, the sending relay must generate a failure message, which should be in the format of a DSN.

### 11.7.9. Image File Format

The Sending Internet Fax devices MUST be able to write minimum set TIFF files, according to the rules for creating minimum set TIFF files defined in TIFF for Facsimile (the S profile), which is also compatible with the specifications for the minimum subset of TIFF-F in F Profile for Facsimile, RFC 2306.

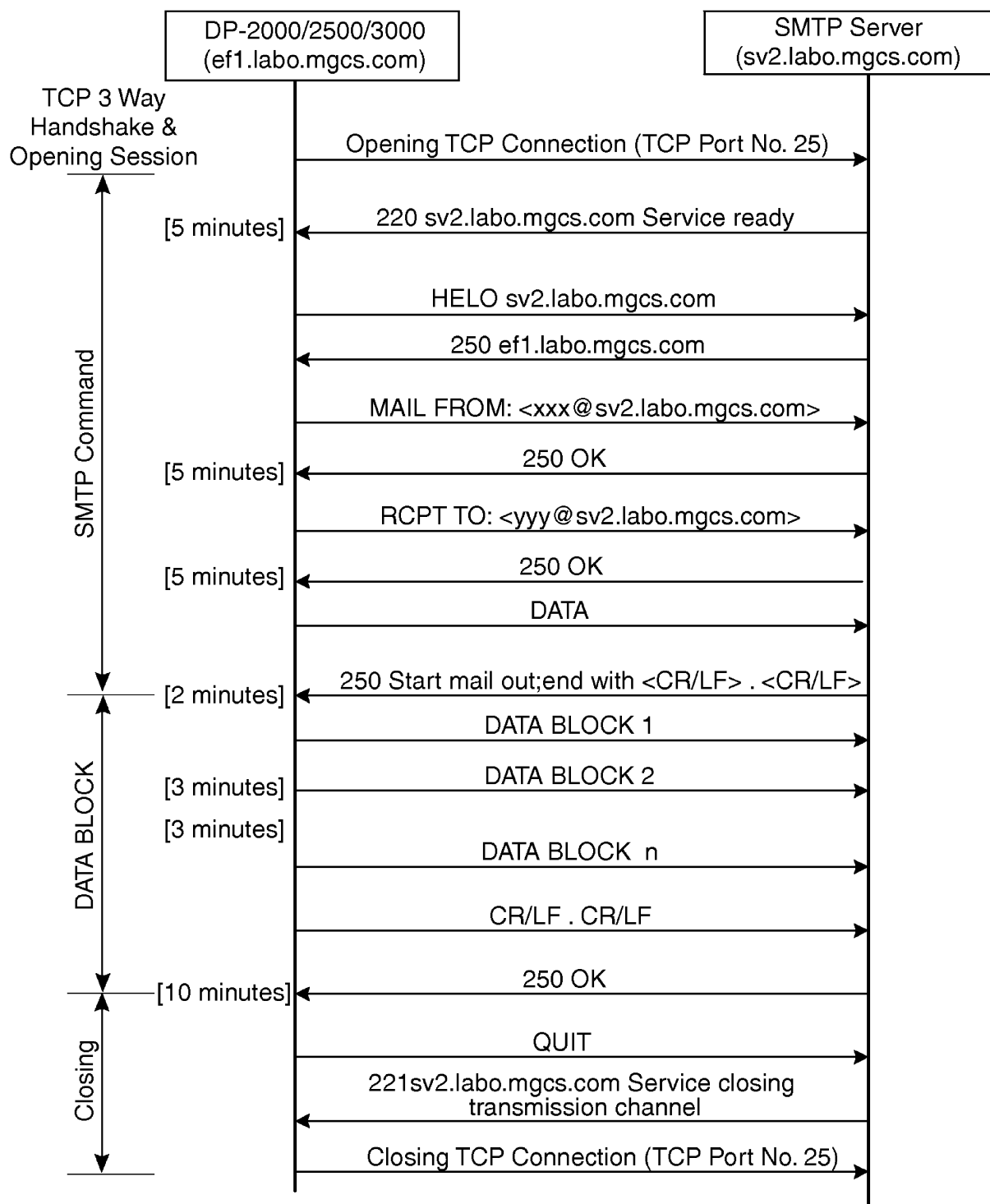
The Receiving Internet Fax devices must be able to read minimum set TIFF files.

## 11.8. Communication Protocols

The set of conventions necessary to achieve facsimile-compatible service covers basic data transport, document data formats, message (document) addressing, delivery confirmation, and message security.

Protocol supported by the DP-2000/2500/3000 is as follows:

### SMTP Command & Reply Procedure



According to RFC1123, there are two approaches for time-outs in the sender-SMTP:

1. limit the time for each SMTP command separately, or
2. limit the time for the entire SMTP dialogue for a single mail message.

A sender-SMTP SHOULD use option (a), per-command timeouts. Timeouts SHOULD be easily reconfigurable, preferably without recompiling the SMTP code.

The value of timer [ ] shown above are recommended by RFC1123.

### **11.8.1. Opening and Closing**

At the time the transmission channel is opened there is an exchange of commands to ensure that the hosts are communicating with the hosts they think they are. The following two commands are used in the transmission channel for opening and closing:

```
HELO:<SP> <domain> <CRLF>  
QUIT:<CRLF>
```

In the HELO command, the host sending the command identifies itself; the command may be interpreted as saying, "Hello, I am <domain>".

### **11.8.2. Mail (MAIL)**

This command is used to initiate a mail transaction in which the mail data is delivered to one or more mailboxes.

### **11.8.3. RECIPIENT (RCPT)**

This command is used to identify an individual recipient of the mail data; multiple recipients are specified by multiple uses of this command.

### **11.8.4. Data (DATA)**

The receiver treats the lines following the command as mail data from the sender. This command causes the mail data from this command to be appended to the mail data buffer. The mail data may contain any of the 128 ASCII character codes. The mail data is terminated by a line containing only a period, that is the character sequence "<CRLF>.<CRLF>". This is the end of mail data indication.

### **11.8.5. Send**

This command is used to initiate a mail transaction in which the mail data is delivered to one or more terminals. This command is successful if the message is delivered to a terminal.

### **11.8.6. Reset (RSET)**

This command specifies that the current mail transaction is to be aborted. Any stored sender, recipients, and mail data must be discarded, and all buffers and state tables cleared. The receiver must send an OK reply.

### **11.8.7. Verify (VRFY)**

This command asks the receiver to confirm that the argument identifies a user. If it is a user name, the full name of the user (if known) and the fully specified mailbox are returned.

### **11.8.8. Quit (QUIT)**

This command specifies that the receiver must send an OK reply, and then close the transmission channel.

### **11.8.9. Reply Codes from SMTP Server**

SMTP is independent of the particular transmission subsystem and requires only a reliable ordered data stream channel. The SMTP design is based on the following model of communication: as the result of a user mail request, the sender-SMTP establishes a two-way transmission channel to a receiver-SMTP. The receiver-SMTP may be either the ultimate destination or an intermediate. SMTP commands are generated by the sender-SMTP and sent to the receiver-SMTP. SMTP replies are sent from the receiver-SMTP to the sender-SMTP in response to the commands.

## 11.8.10. NUMERIC ORDER LIST OF REPLY CODES

211	System status or system help reply
220	<domain> Service ready
221	<domain> Service closing transmission channel
250	Requested mail action okay# completed
251	User not local; will forward to <forward-path>
354	Start mail input; end with <CRLF>.<CRLF>
421	<domain> Service not available: closing transmission channel [This may be a reply to any command if the service knows it must shut down]
450	Requested mail action not taken: mailbox unavailable [E.g.# mailbox busy]
451	Requested action aborted: local error in processing
452	Requested action not taken: insufficient system storage
500	Syntax error# command unrecognized [This may include errors such as command line too long]
501	Syntax error in parameters or arguments
502	Command not implemented
503	Bad sequence of commands
504	Command parameter not implemented
550	Requested action not taken: mailbox unavailable [E.g.# mailbox not found# no access]
551	User not local; please try <forward-path>
552	Requested mail action aborted: exceeded storage allocation
553	Requested action not taken: mailbox name not allowed [E.g.# mailbox syntax incorrect]
554	Transaction failed

## 11.9. POP (Post Office Protocol Version 3)

### 11.9.1. Introduction

On certain types of smaller nodes in the Internet it is often impractical to maintain a message transport system (MTS). For example, a workstation may not have sufficient resources (cycles, disk space) in order to permit a SMTP server and associated local mail delivery system to be kept resident and continuously running. Similarly, it may be expensive (or impossible) to keep a personal computer interconnected to an IP-style network for long amounts of time.

The Post Office Protocol - Version 3 (POP3) is intended to permit a workstation to dynamically access a mail drop on a server host in a useful fashion. Usually, this means that the POP3 protocol is used to allow a workstation to retrieve mail that the server is holding for it.

For more detail, please refer to URL of [http:// www.imc.org/rfc1939](http://www.imc.org/rfc1939)

### 11.9.2. Basic Operation

Initially, the server host starts the POP3 service by listening on TCP Port No. 110. When a client host wishes to make use of the service, it establishes a TCP connection with the server host. When the connection is established, the POP3 server sends a greeting. The client and POP3 server then exchange commands and responses (respectively) until the connection is closed or aborted.

Commands in the POP3 consist of a case-insensitive keyword, possibly followed by one or more arguments. All commands are terminated by a CRLF pair. Keywords and arguments consist of printable ASCII characters. Keywords and arguments are each separated by a single SPACE character. Keywords are three or four characters long. Each argument may be up to 40 characters long.

Responses in the POP3 consist of a status indicator and a keyword possibly followed by additional information. All responses are terminated by a CRLF pair. Responses may be up to 512 characters long, including the terminating CRLF. There are currently two status indicators: positive ("OK") and negative ("-ERR"). Servers MUST send the "+OK" and "-ERR" in upper case.

Responses to certain commands are multi-line. In these cases, which are clearly indicated below, after sending the first line of the response and a CRLF, any additional lines are sent, each terminated by a CRLF pair. When all lines of the response have been sent, a final line is sent, consisting of a termination octet (decimal code 046, ".") and a CRLF pair. If any line of the multi-line response begins with the termination octet, the line is "byte-stuffed" by pre-pending the termination octet to that line of the response.

Hence a multi-line response is terminated with the five octets "CRLF.CRLF". When examining a multi-line response, the client checks to see if the line begins with the termination octet. If so and if octets other than CRLF follow, the first octet of the line (the termination octet) is stripped away. If so and if CRLF immediately follows the termination character, then the response from the POP server is ended and the line containing ".CRLF" is not considered part of the multi-line response.

A POP3 session progresses through a number of states during its lifetime. Once the TCP connection has been opened and the POP3 @server has sent the greeting, the session enters the AUTHORIZATION state. In this state, the client must identify itself to the POP3 server. Once the client has successfully done this, the server @acquires resources associated with the client's mail drop, and the session enters the TRANSACTION state. In this state, the client requests actions on the part of the POP3 server. When the client has issued the QUIT command, the session enters the UPDATE state. In this state, the POP3 server releases any resources acquired during @the TRANSACTION state and says goodbye. The TCP connection is then closed.

A server MUST @respond to an unrecognized, unimplemented, or @syntactically invalid command by responding with a negative status @indicator. A server MUST respond to a command issued when the session is in an incorrect state by responding with a negative status indicator. There is no general method for a client to distinguish between a server which does not implement an optional command and a server which is unwilling or unable to process the command.

A POP3 server MAY have an inactivity auto logout timer. Such a timer MUST be of at least 10 minutes' duration. The receipt of any command from the client during that interval should suffice to reset the auto logout timer. When the timer expires, the session does NOT enter the UPDATE state--the server should close the TCP connection without removing any messages or sending any response to the client.

### 11.9.3. POP3 Command Summary

#### Minimal POP3 Commands:

USER name                      valid in AUTHORIZATION state  
 PASS string  
 QUIT

STAT                              valid in the TRANSACTION state  
 LIST [msg]  
 RETR msg  
 DELE msg  
 NOOP  
 RSET  
 QUIT

#### Optional POP3 Commands:

APOP name digest              valid in AUTHORIZATION state  
  
 TOP msg n                      valid in the TRANSACTION state  
 UIDL [msg]

#### POP3 Replies:

+OK  
 -ERR

#### Note:

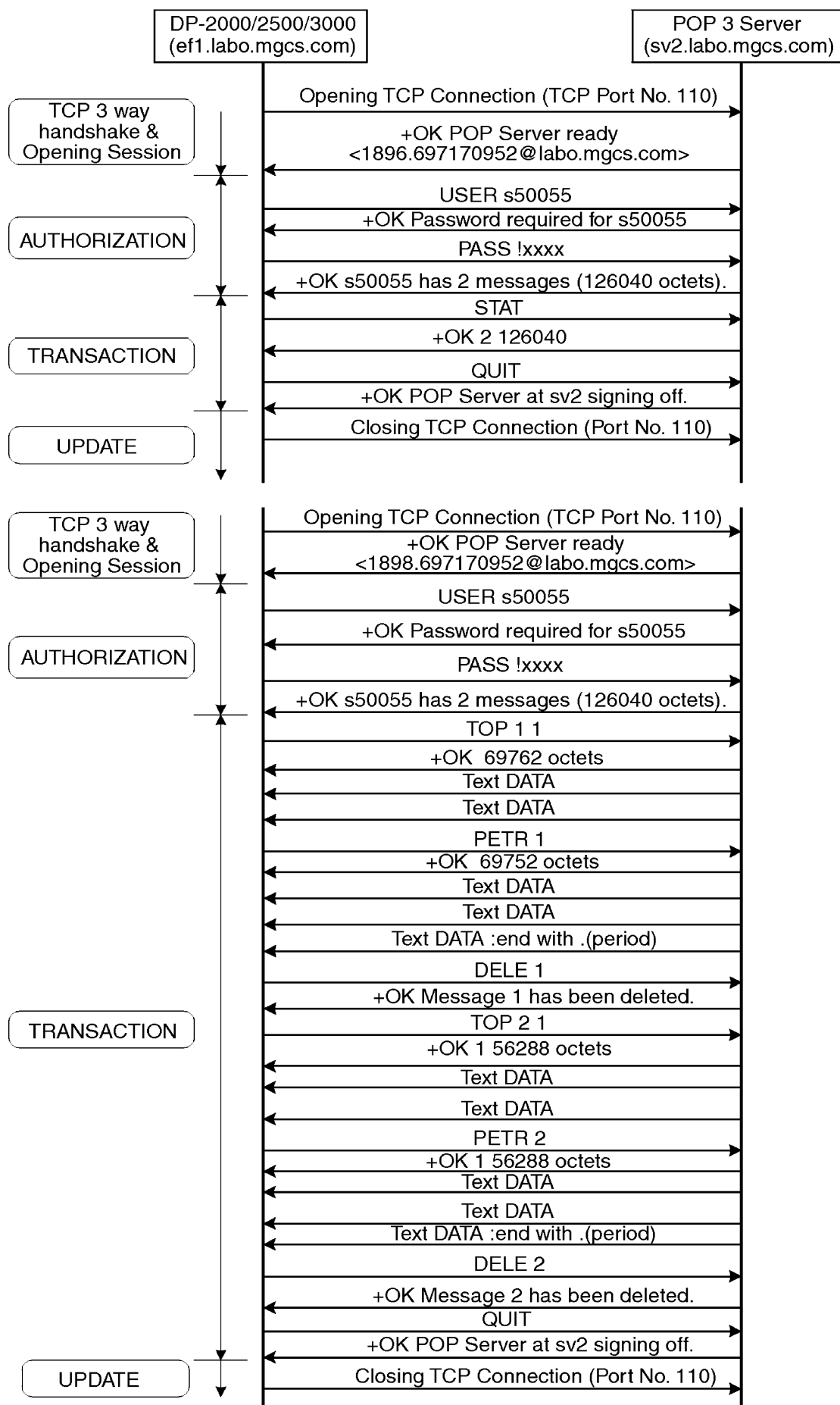
With the exception of the STAT, LIST, and UIDL commands, the reply given by the POP3 server to any command is significant only to "+OK" and "-ERR". The client may ignore any text occurring after this reply.

From:		To:	
[1] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	TCP D=110 S=12270 SYN SEQ=14220350 LEN=0 WIN=2144
[2] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	TCP D=12270 S=110 SYN ACK=14220351 SEQ=1205248000 LEN=0 WIN=4
[3] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	TCP D=110 S=12270 ACK=1205248001 WIN=2144
[4] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	POP3:R PORT=12270 +OK UCB Pop server (version 1.831beta) at
[5] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	POP3:C PORT=110 USER p50019
[6] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	POP3:R PORT=12270 +OK Password required for p50019.
[7] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	POP3:C PORT=110 PASS p50019
[8] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	TCP D=12270 S=110 ACK=14220377 WIN=4096
[9] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	POP3:R PORT=12270 +OK p50019 has 1 message(s) (788 octets).
[10] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	POP3:C PORT=110 STAT
[11] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	POP3:R PORT=12270 +OK 1 788
[12] 0k	[172. 21. 11. 19]	[133. 185. 245. 20]	POP3:C PORT=110 QUIT
[13] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	TCP D=12270 S=110 ACK=14220389 WIN=4096
[14] 0k	[133. 185. 245. 20]	[172. 21. 11. 19]	POP3:R PORT=12270 +OK Pop server at popm1 signing off.

### Sample of a POP3 Protocol Log



## POP 3 Command & Reply Procedure



## 11.10. Troubleshooting from a PC

Troubleshooting is an art of seeking out the cause of a problem and eliminating the problem by managing or eliminating the cause. No matter what the problem is on your network, the OSI Reference Model serves as an excellent reference tool to help you locate the area of trouble.

One of the simplest tools available, is the DOS command-line prompt from your Windows PC.

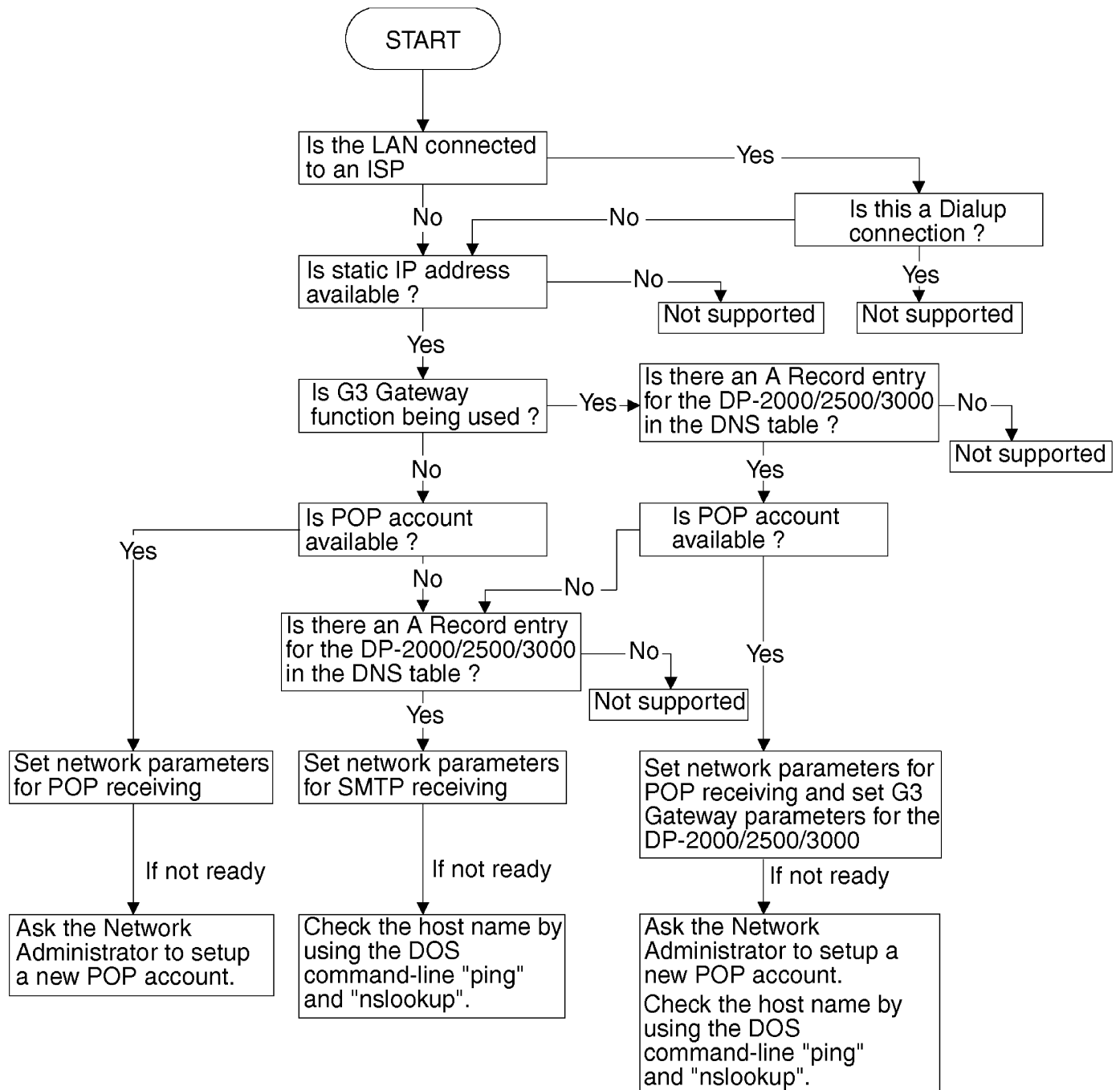
Listed below are the most often used command-line prompts that you can use at the customer's network PC. Some commands are available as an option for checking with more detail.

Command	Sample	Purpose
Ping	Ping 192. 168. 1. 30	Checking for physical connection between your PC and the target destination (192.168.1.30)
Ipconfig /all	Ipconfig /all	Checking for current network configuration (Host Name, DNS server, IP address, Subnet Mask, Default Gateway, MAC address, WINS etc) For Windows 95/98, please type "winipcfg" instead of Ipconfig/all
Tracert	Tracert 192.168.2.245	Checking for the datagram route between your PC and the target destination (192.168.2.245)
Netstat	Netstat Netstat -nr	Active connection list Active route for your subnet. All special assigned IP addresses are also shown
Net view	Net view	Checking for the current file sharing Host Name
Nslookup	Nslookup	Checking for the DNS server IP address. This command is available for Windows NT only.

**Note:**

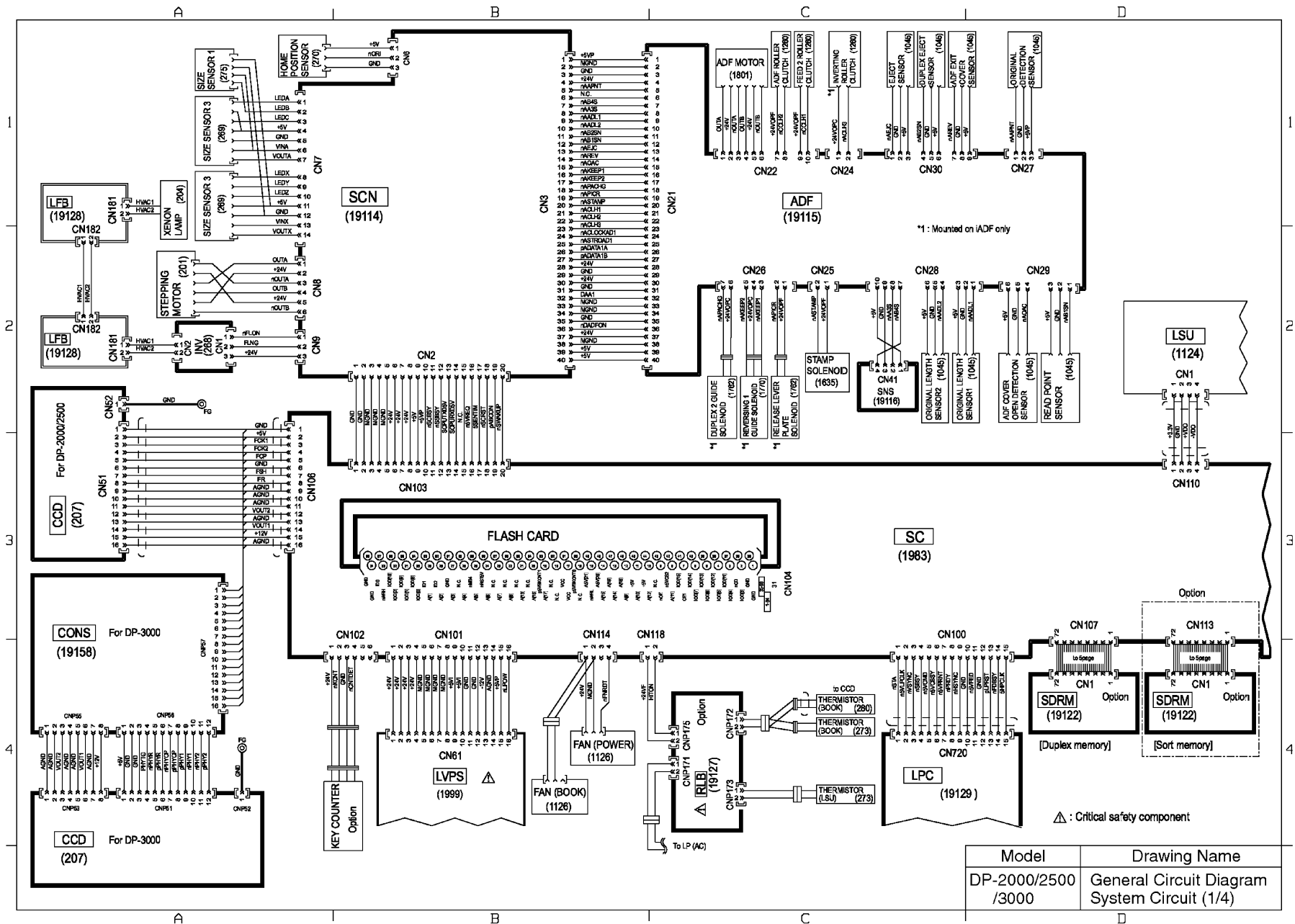
Before taking corrective action, you must check the physical connections or wiring first.

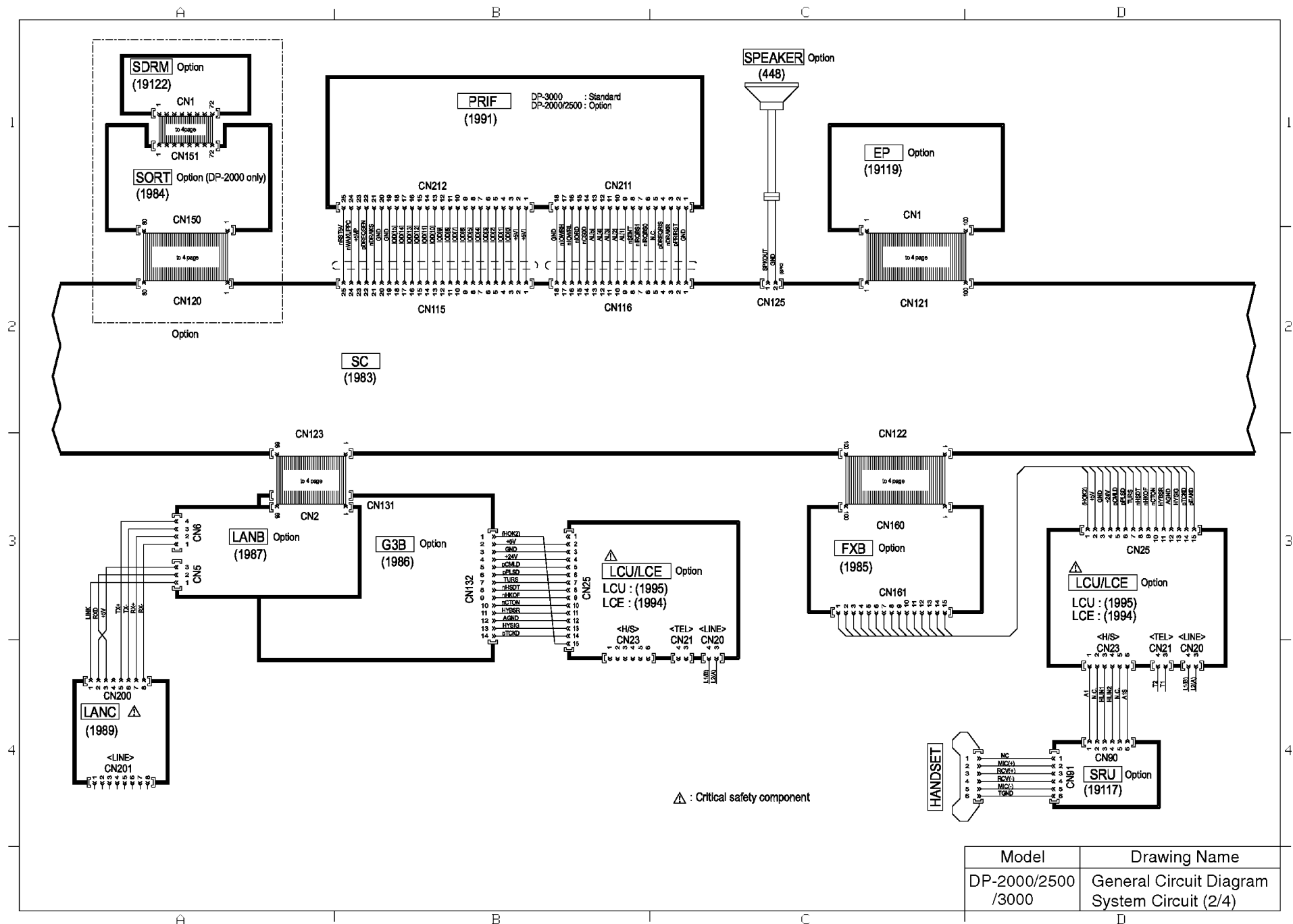
## 11.11. Verifying the Configuration and Mail Account Type (SMTP or POP)



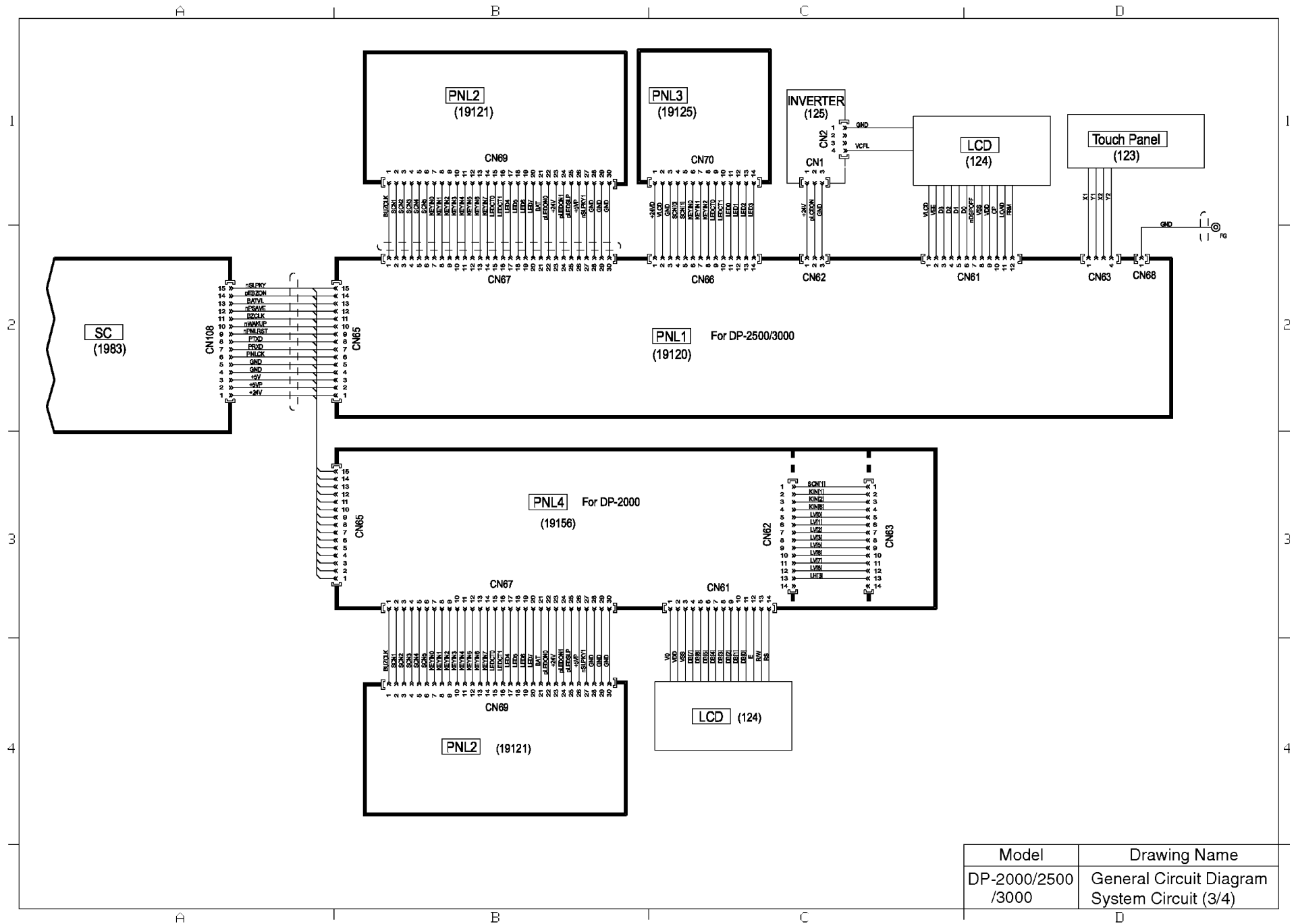
12 Schematic Diagram

12.1. General Circuit Diagram System Circuit

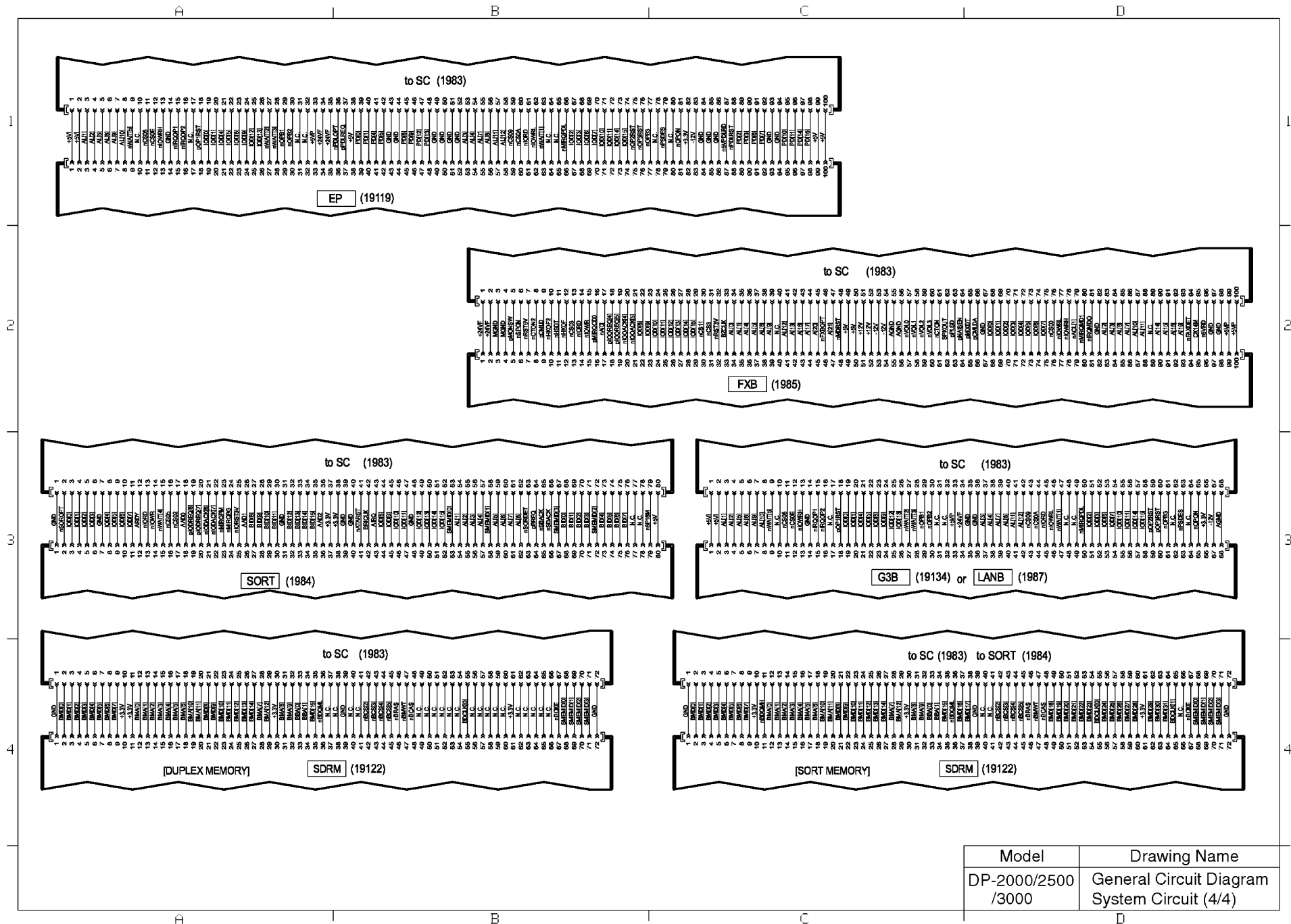




Model	Drawing Name
DP-2000/2500 /3000	General Circuit Diagram System Circuit (2/4)

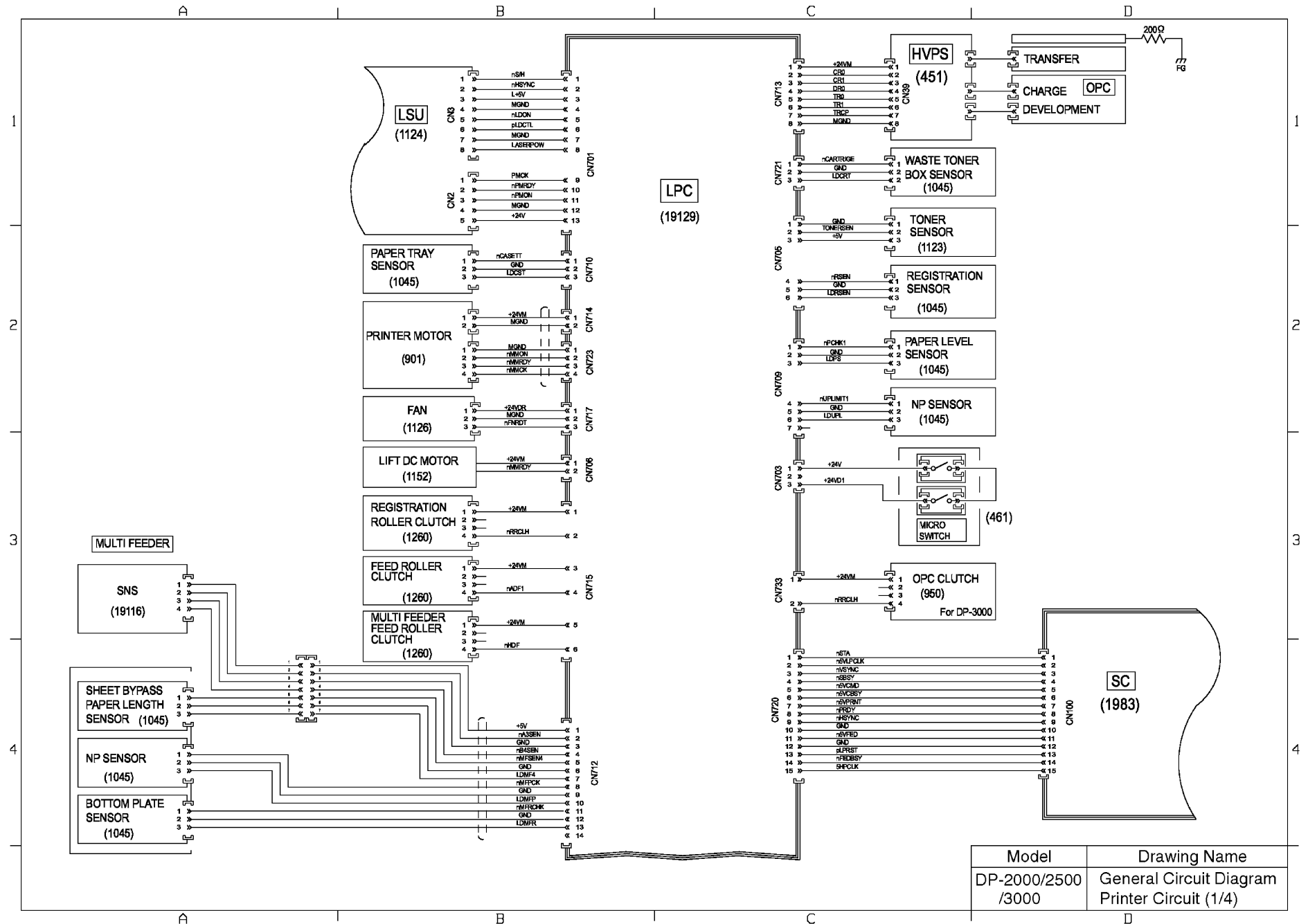


Model	Drawing Name
DP-2000/2500 /3000	General Circuit Diagram System Circuit (3/4)



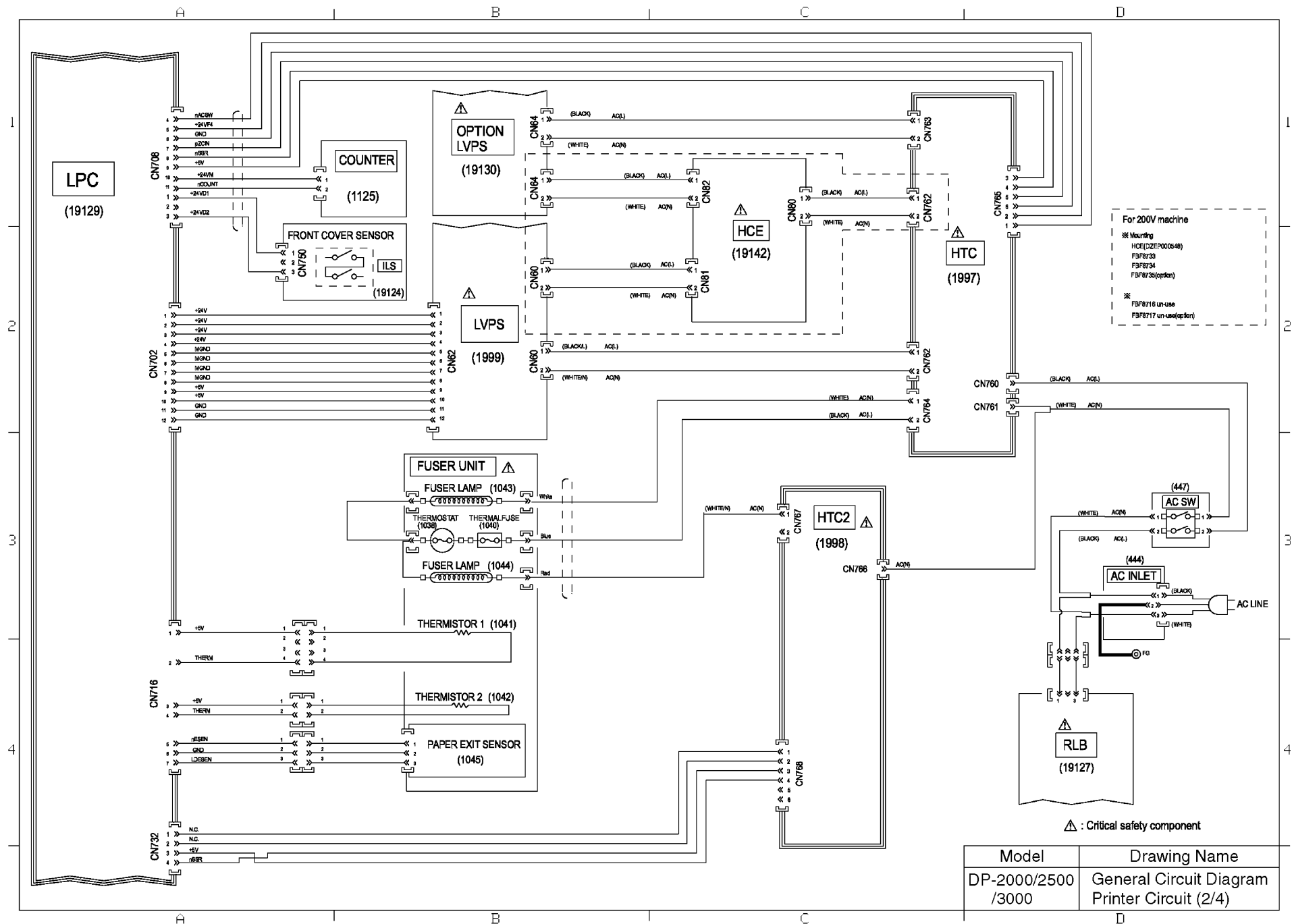
Model	Drawing Name
DP-2000/2500 /3000	General Circuit Diagram System Circuit (4/4)

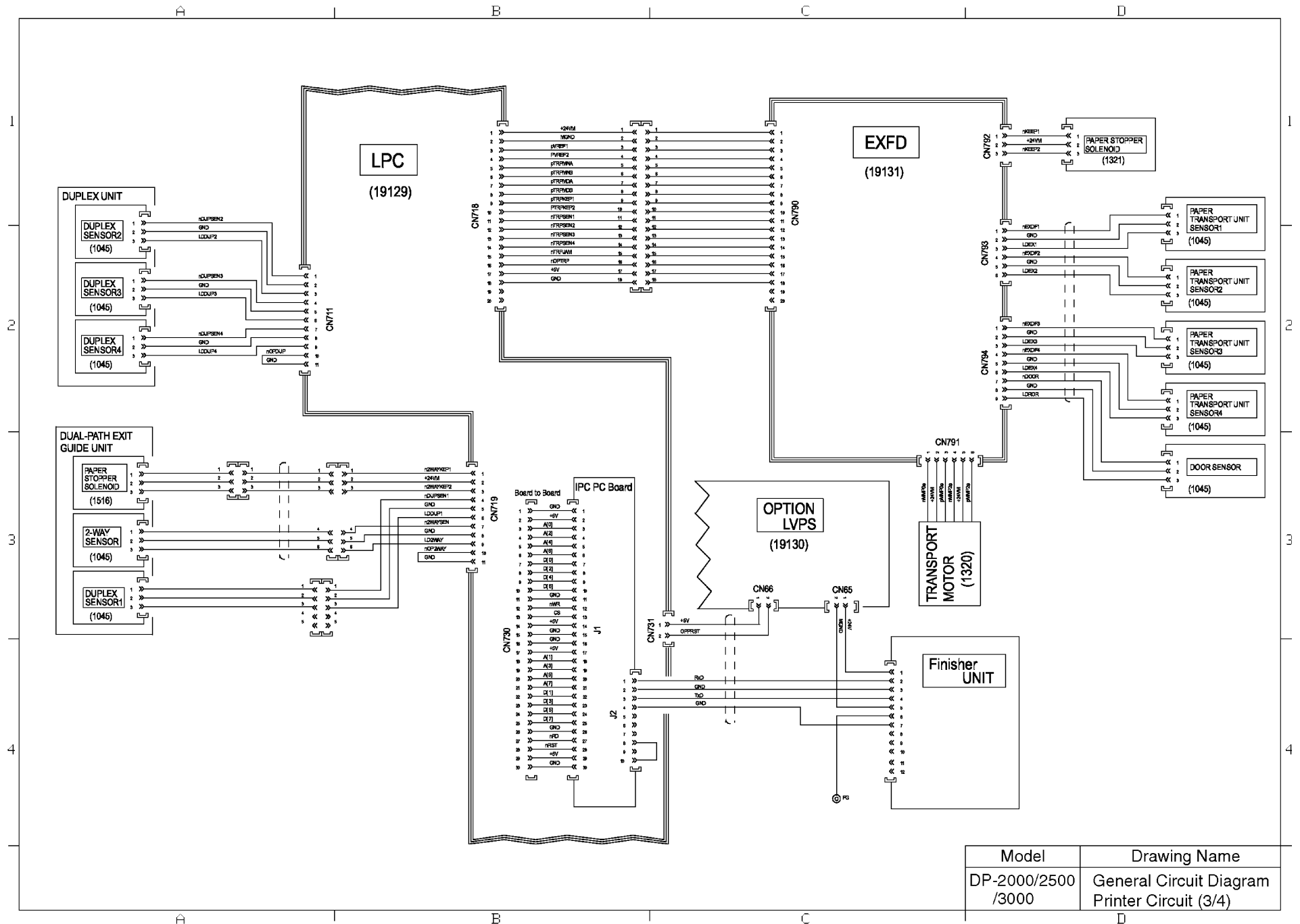
## 12.2. General Circuit Diagram Printer Circuit

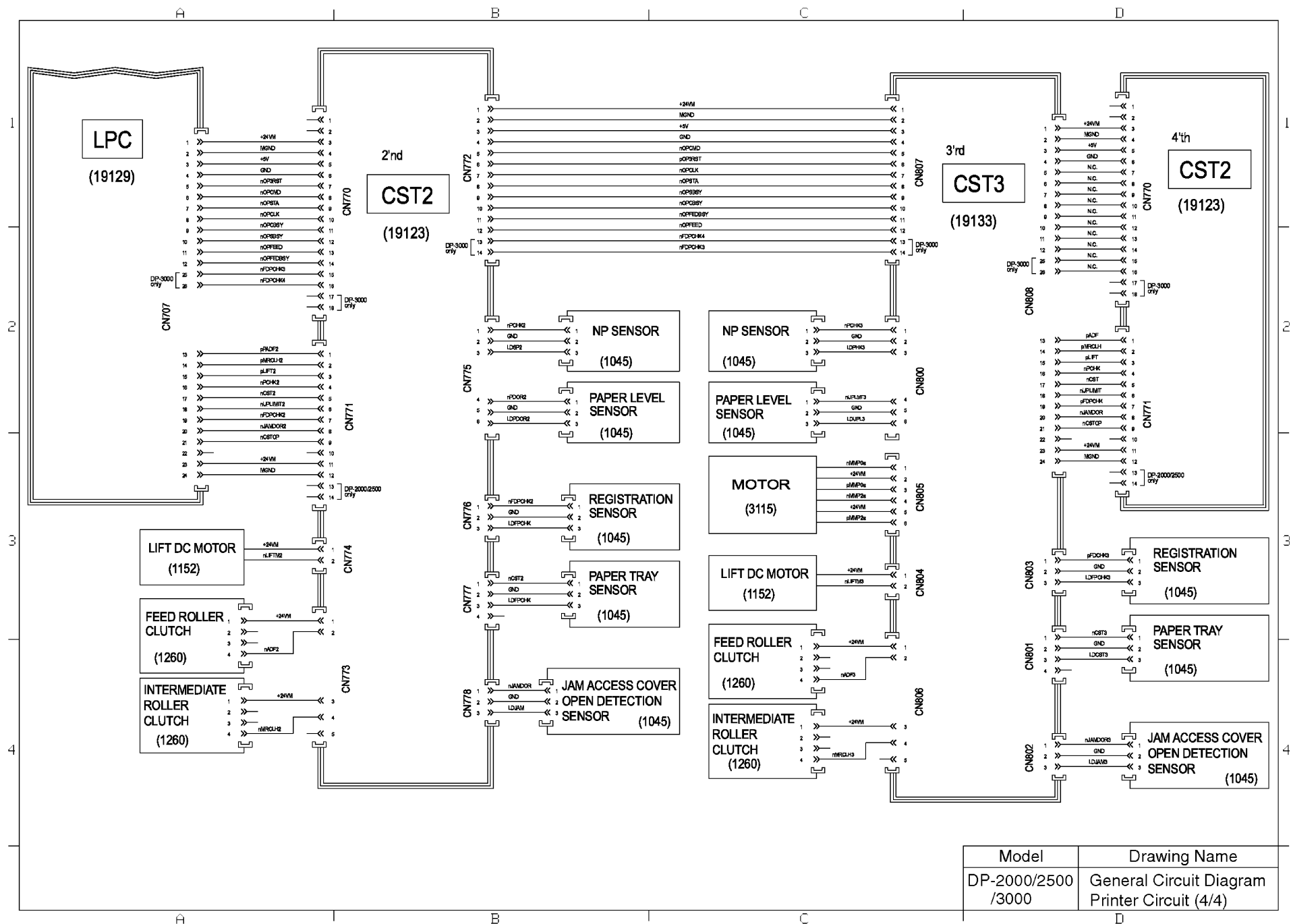


Model	Drawing Name
DP-2000/2500 /3000	General Circuit Diagram Printer Circuit (1/4)

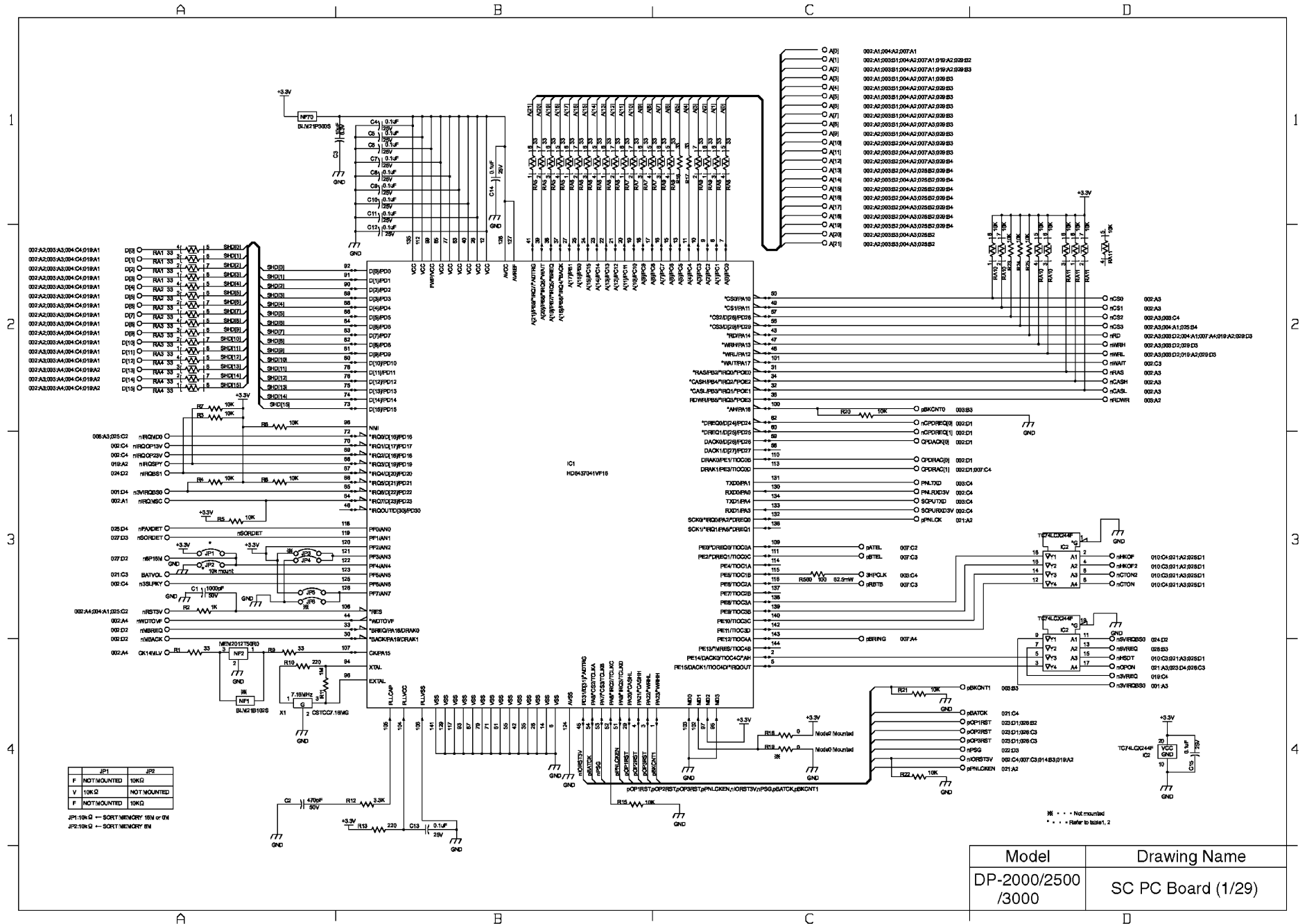




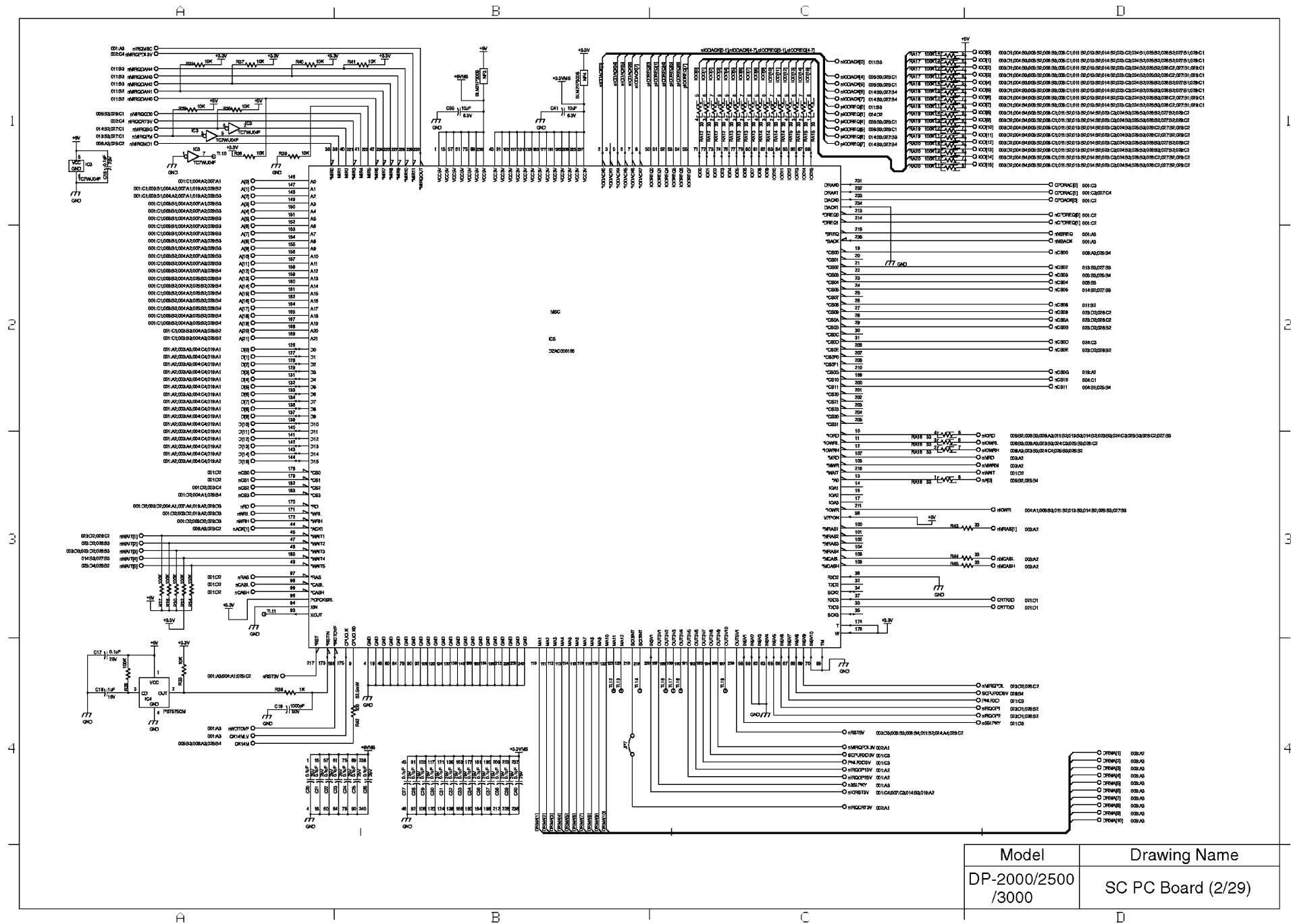




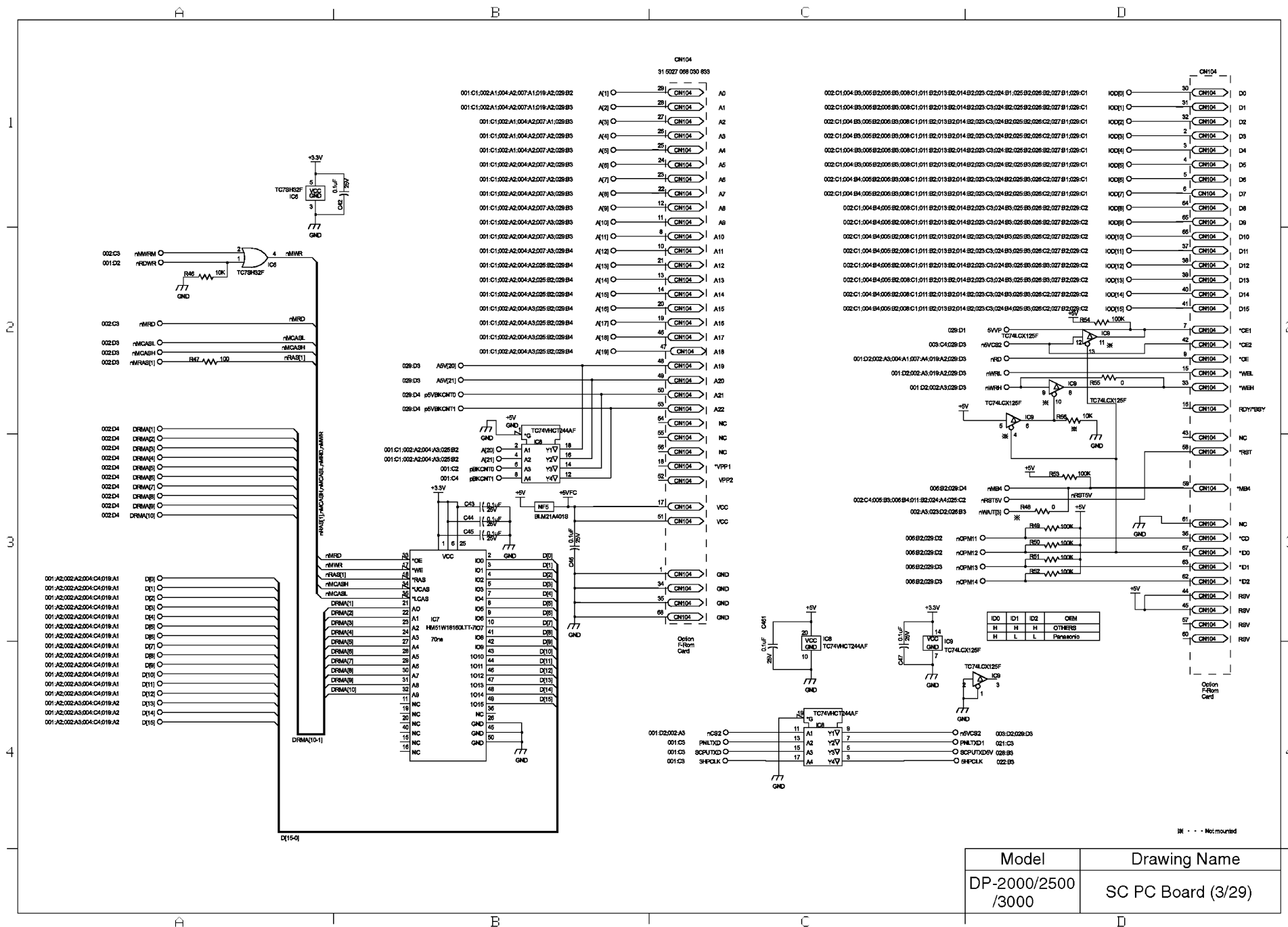
## 12.3. SC PC Board

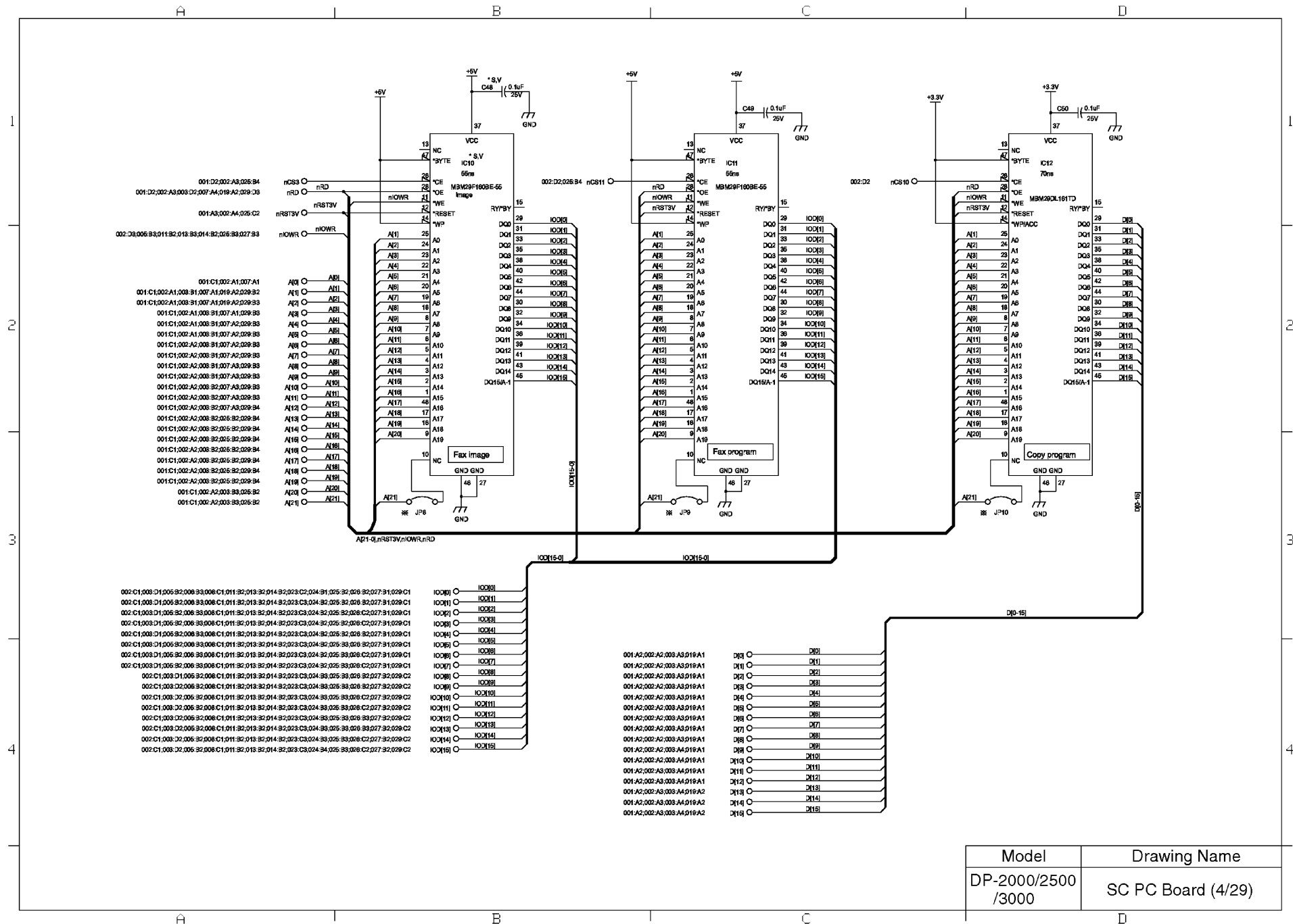


Model	Drawing Name
DP-2000/2500 /3000	SC PC Board (1/29)

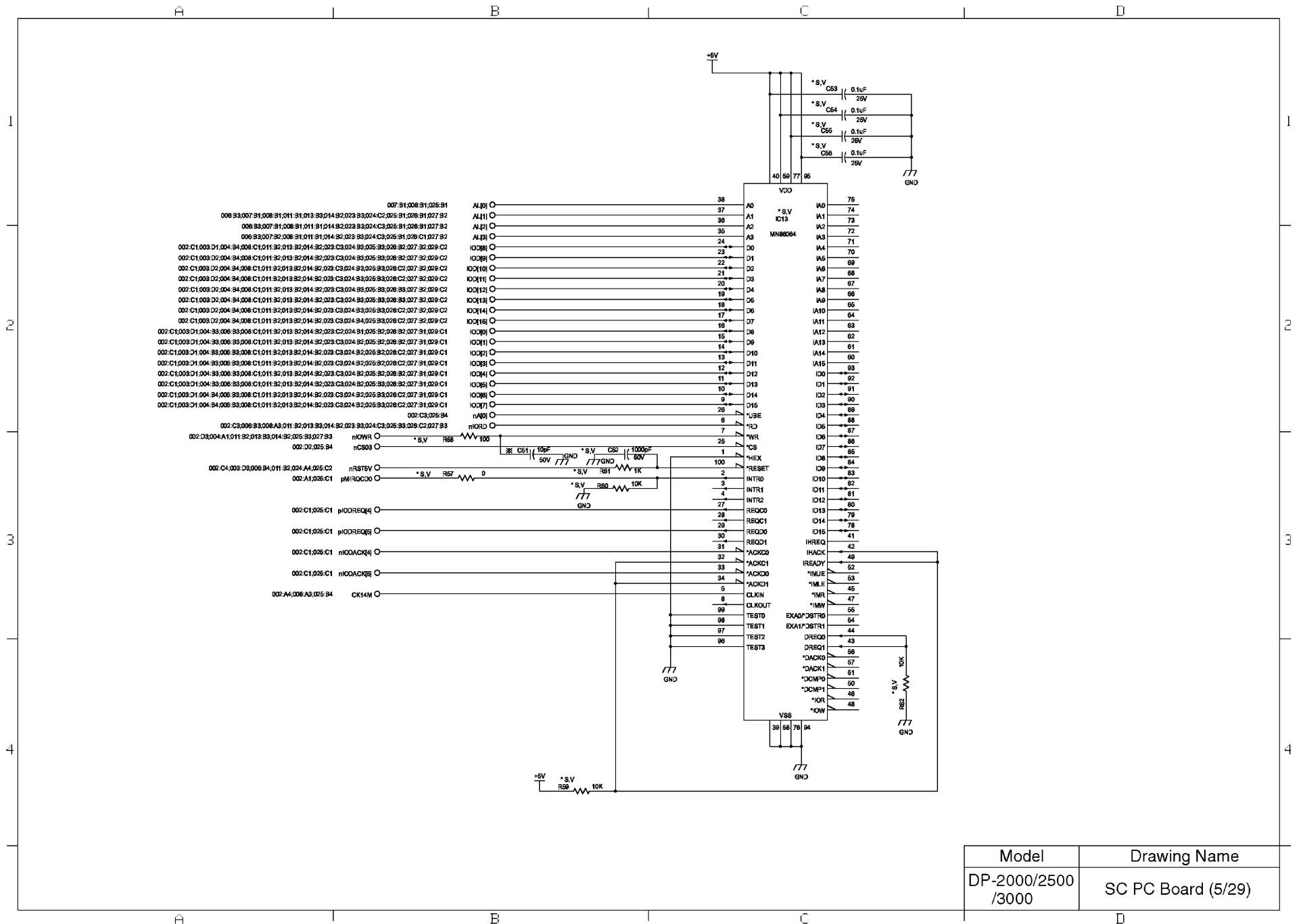


Model	Drawing Name
DP-2000/2500 /3000	SC PC Board (2/29)

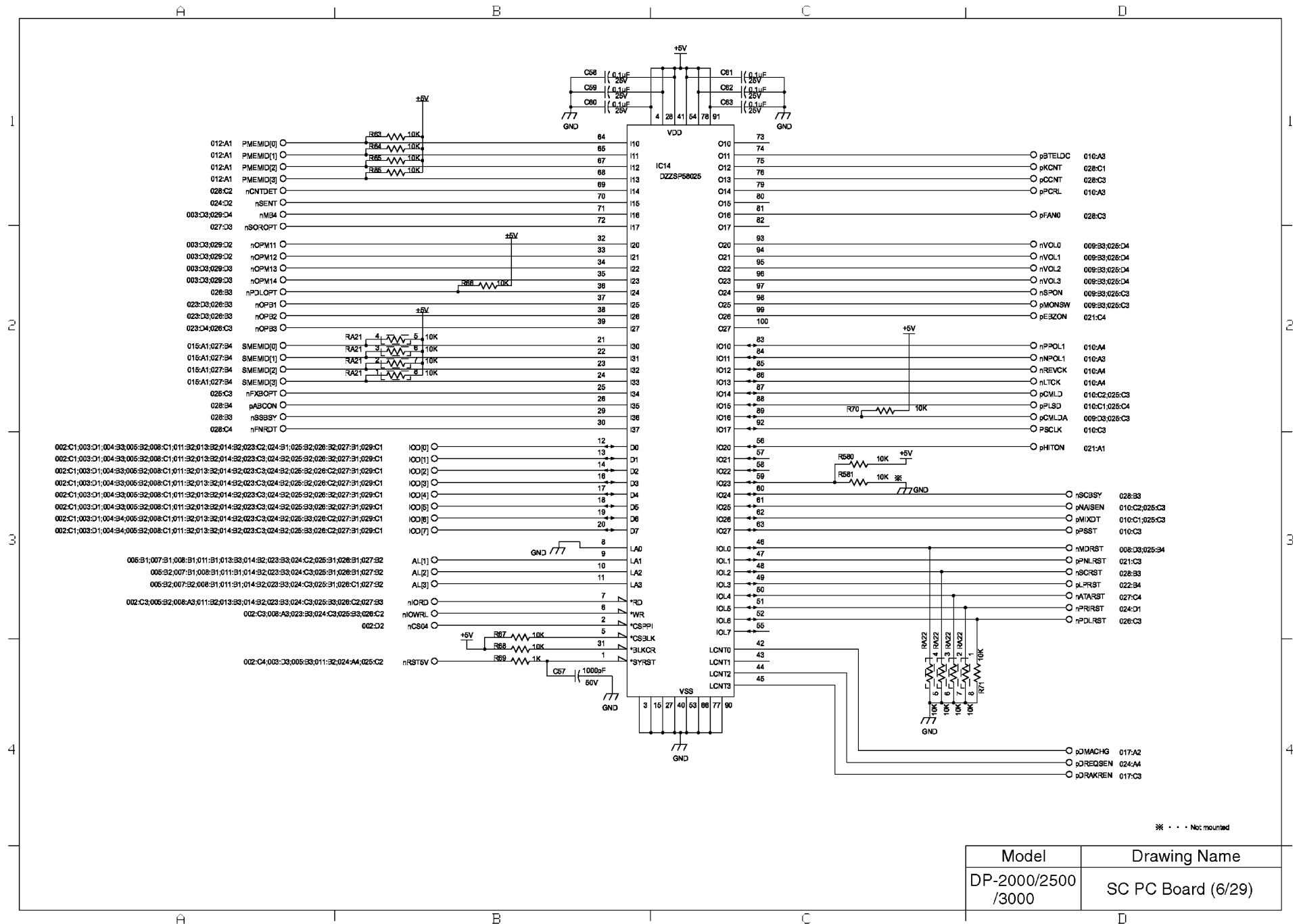


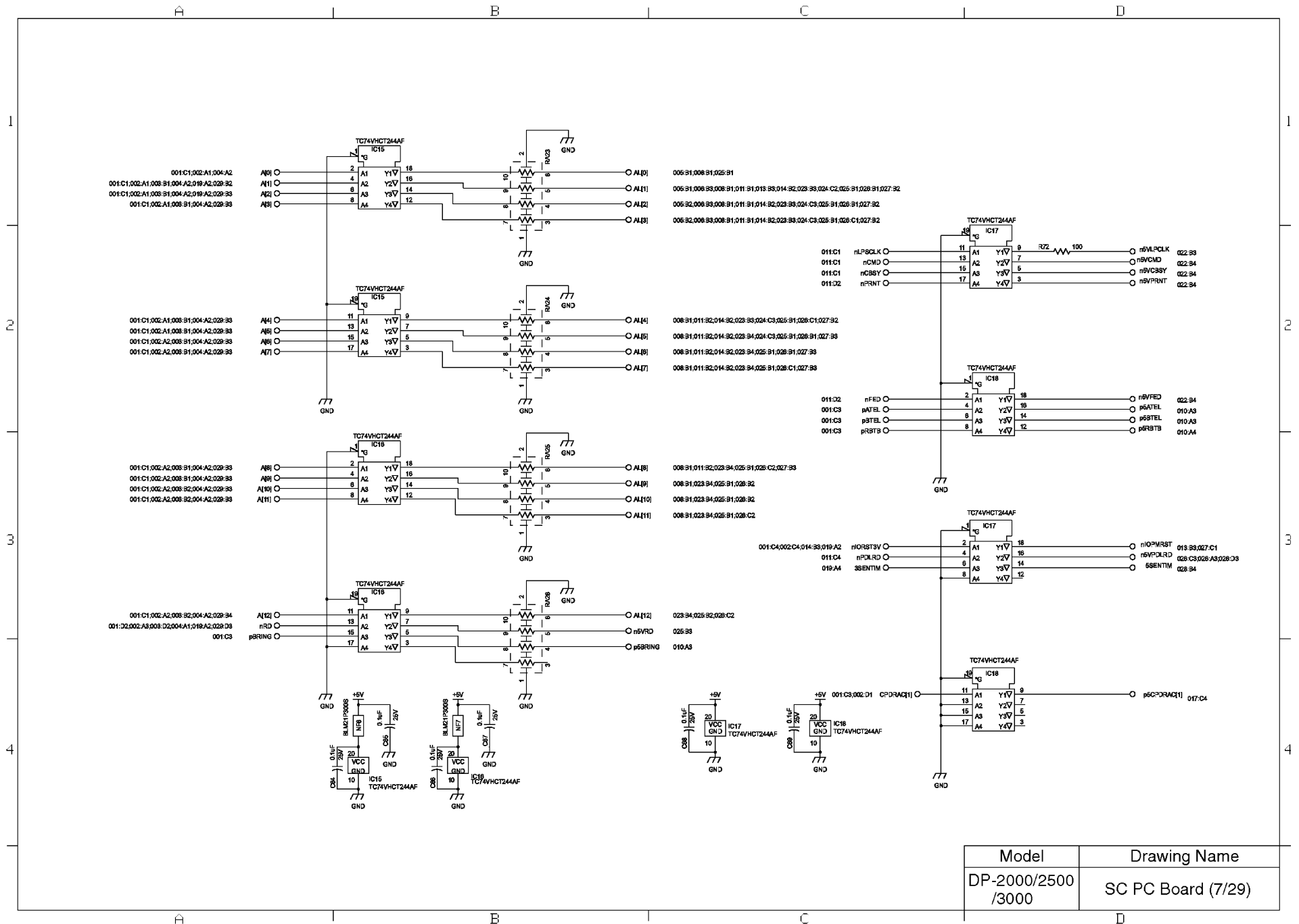


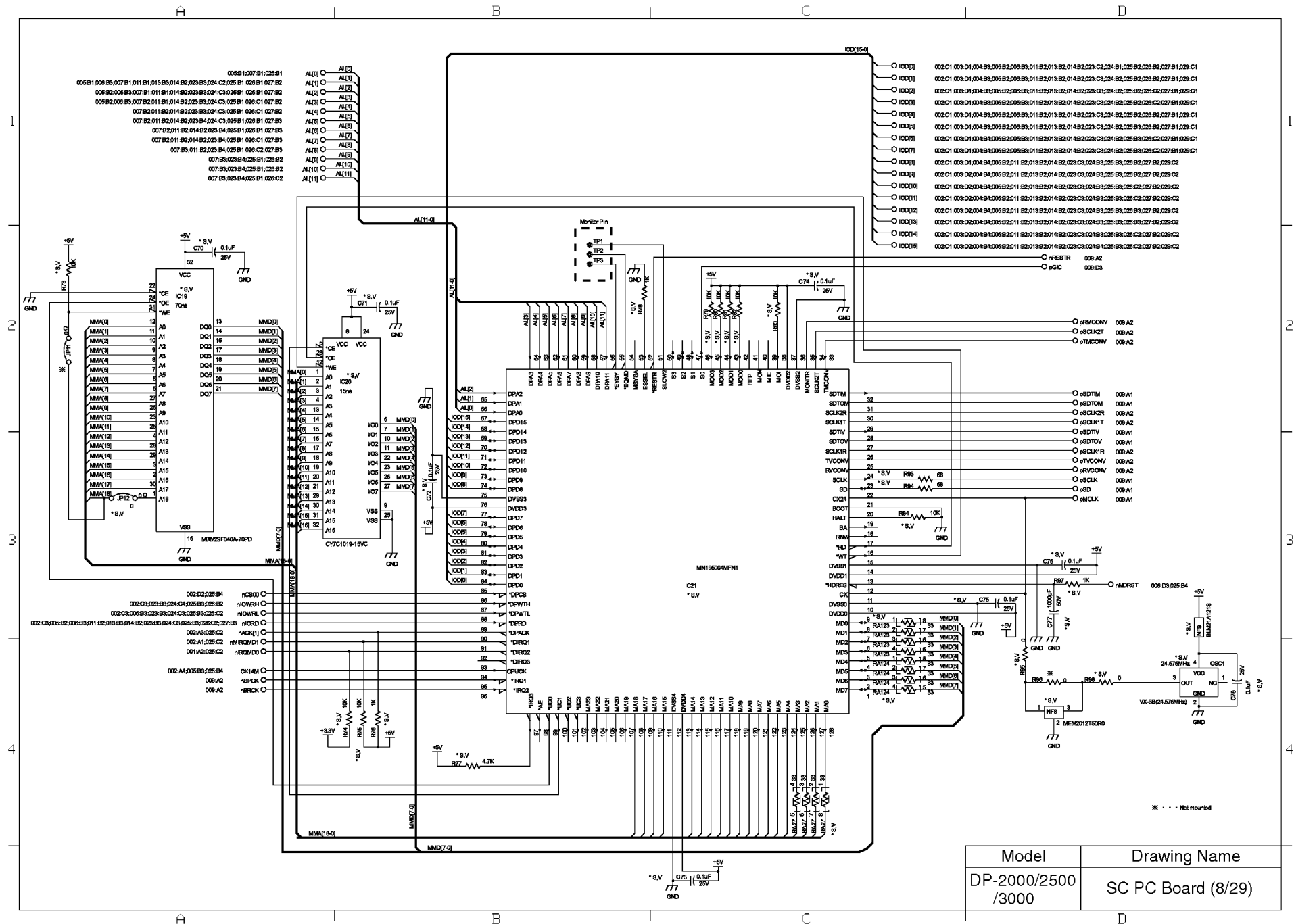
Model	Drawing Name
DP-2000/2500/3000	SC PC Board (4/29)

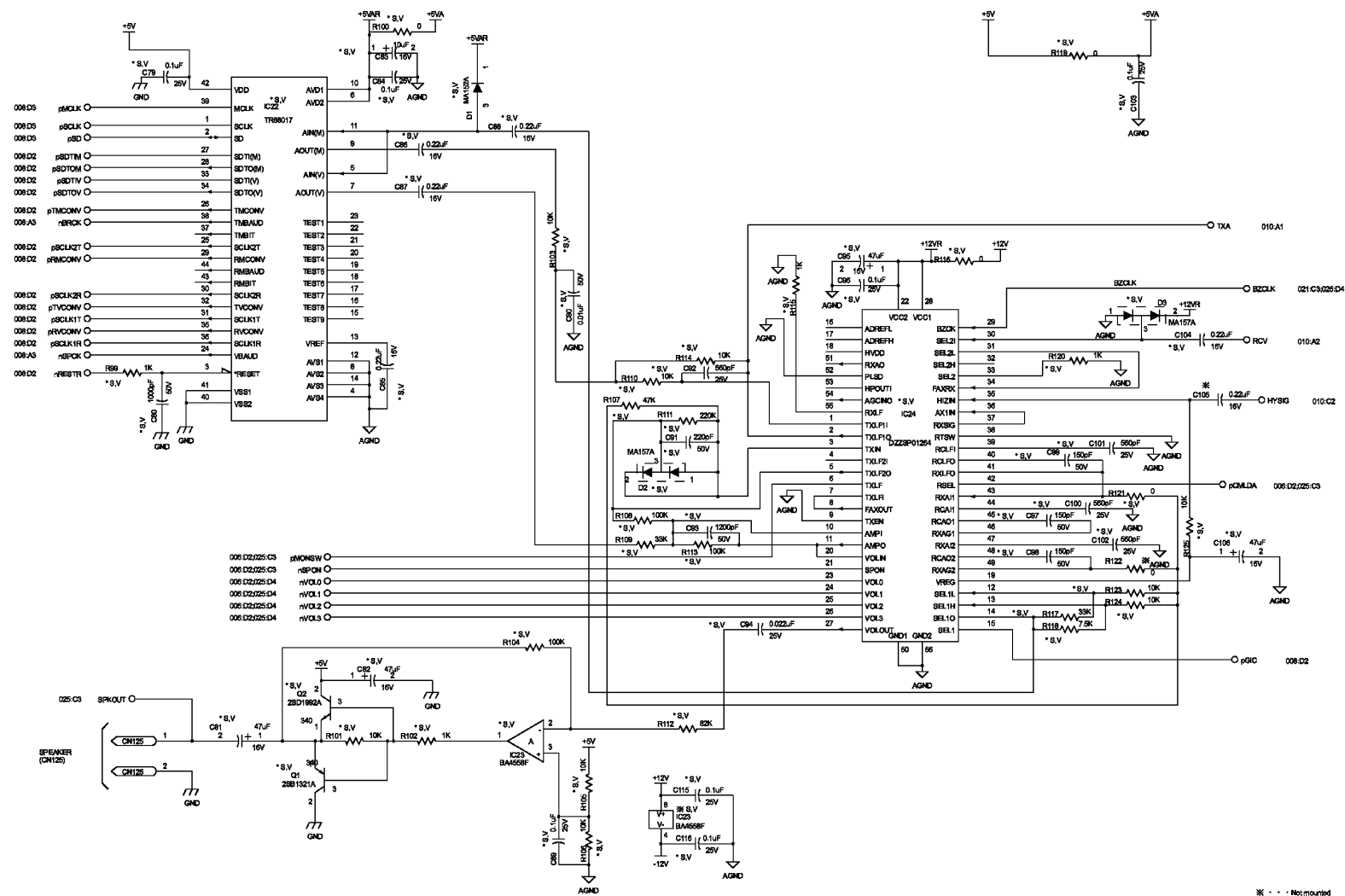






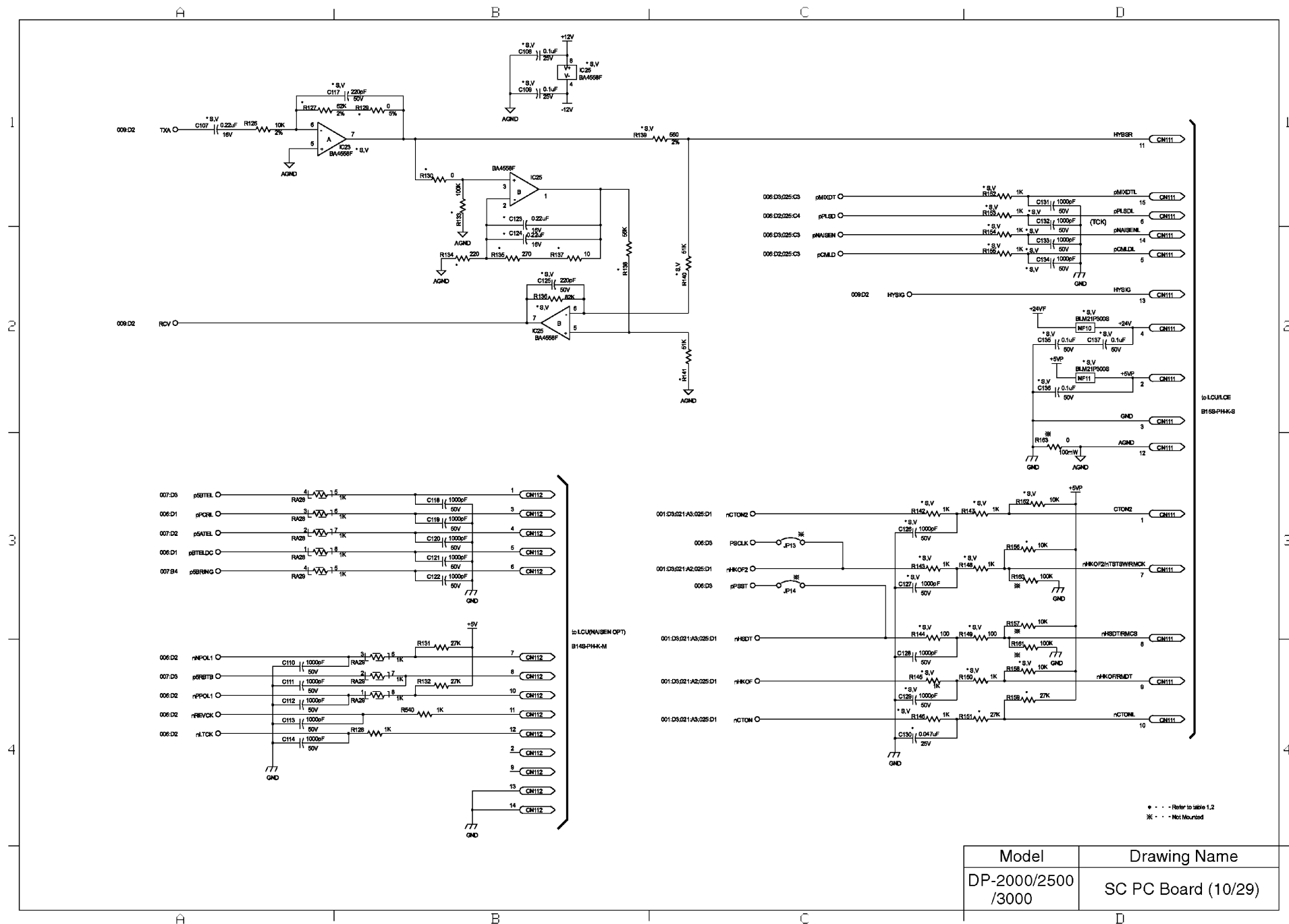


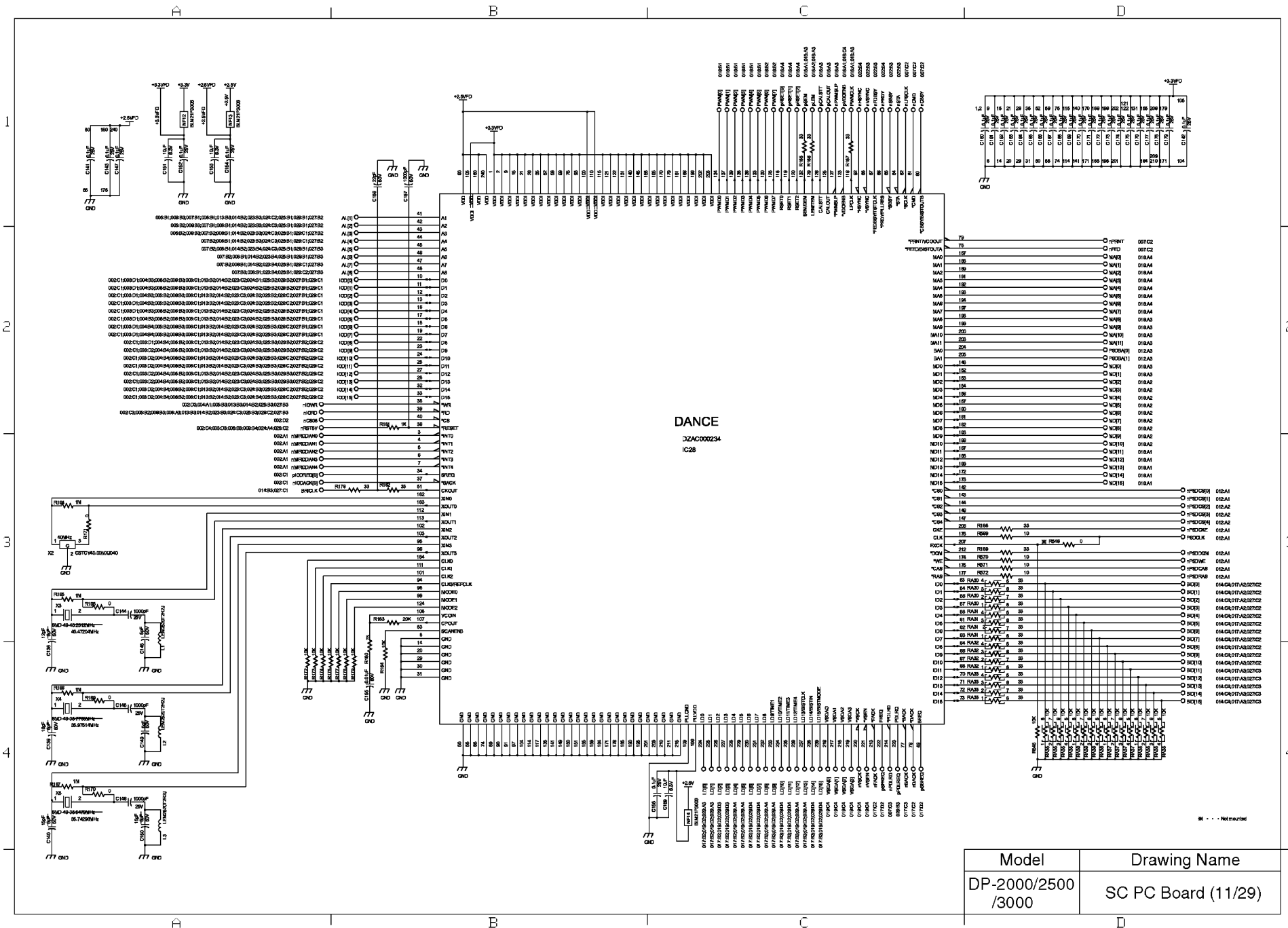




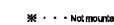
\* ... Not mounted

Model	Drawing Name
DP-2000/2500 /3000	SC PC Board (9/29)

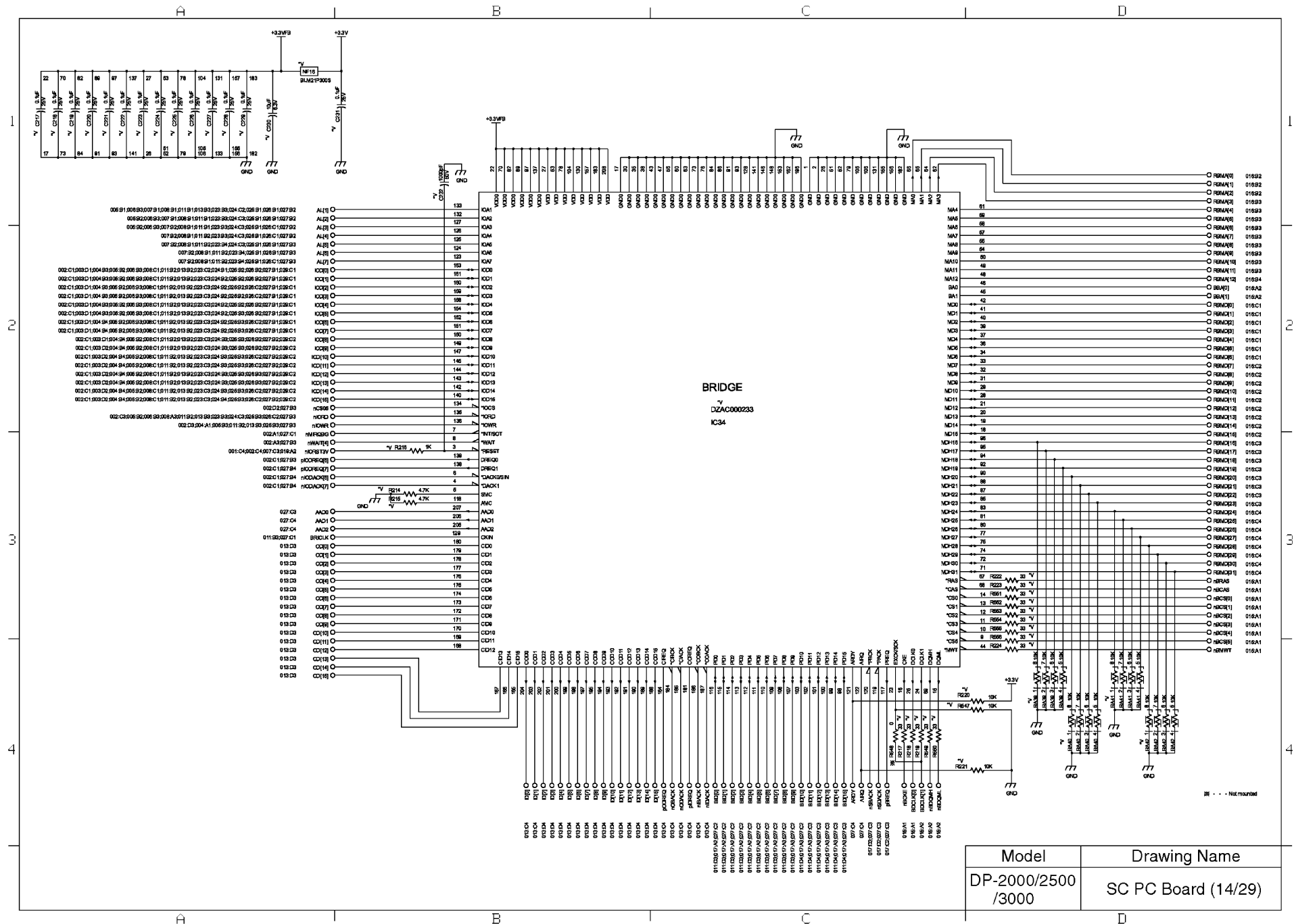


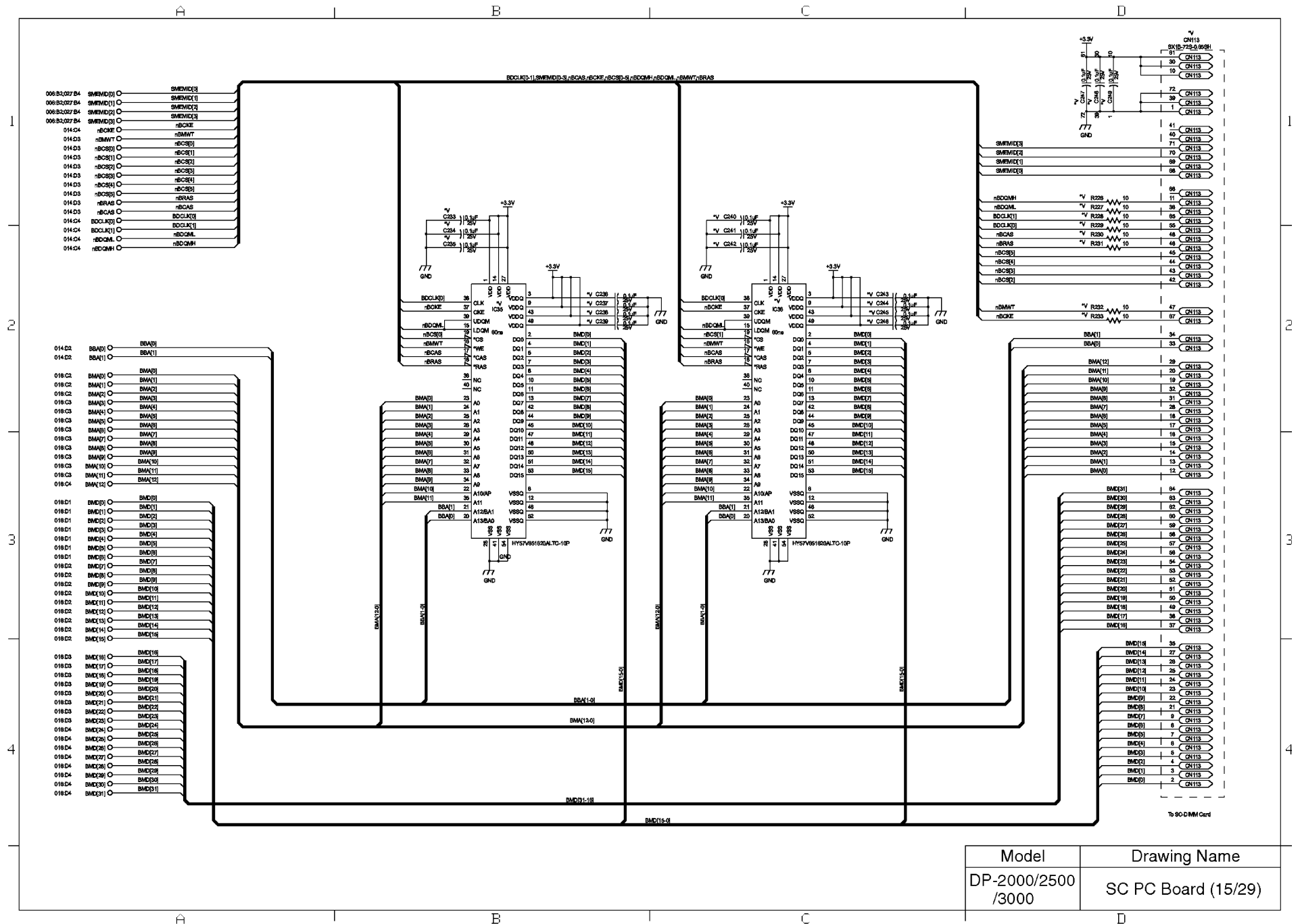


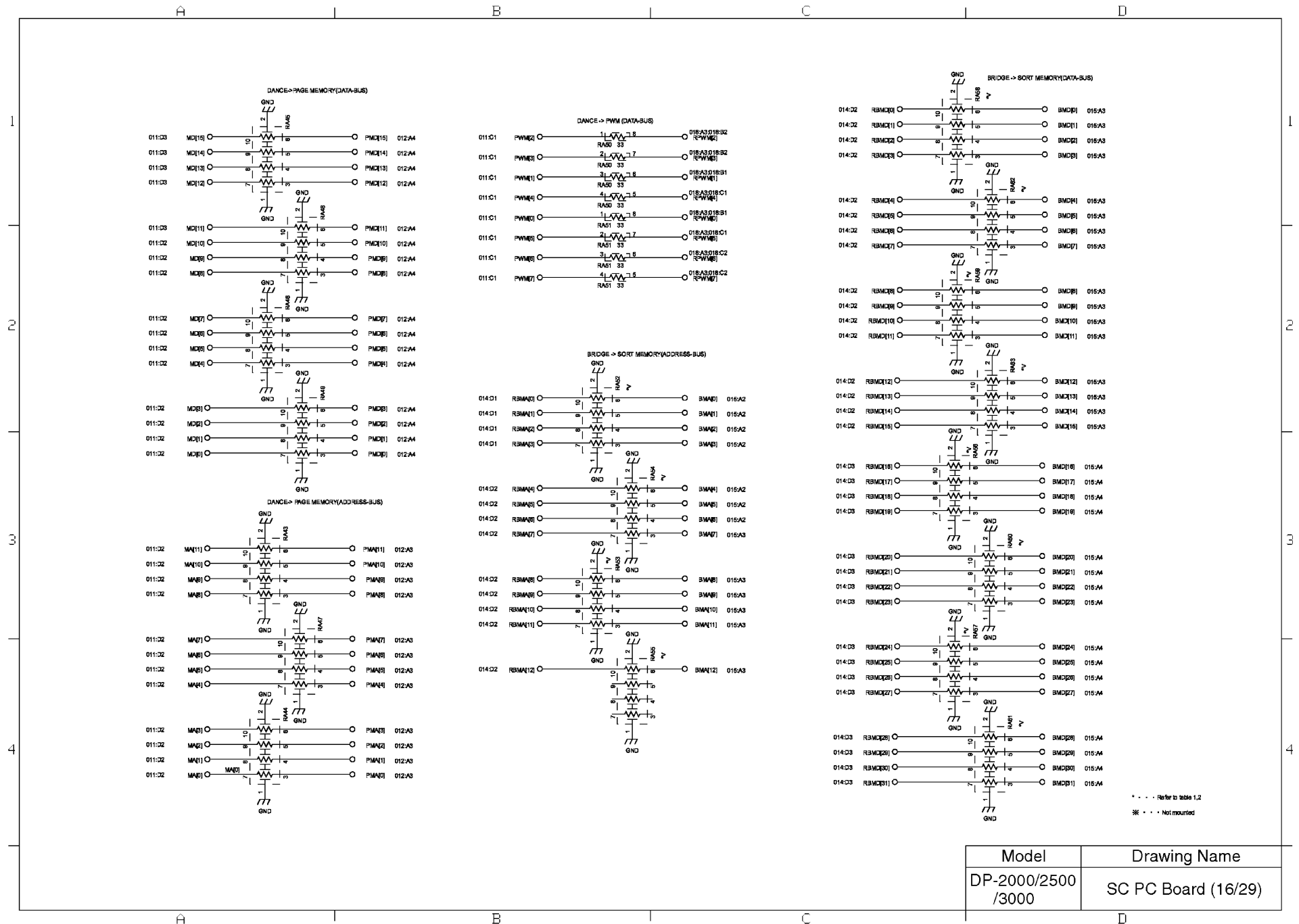


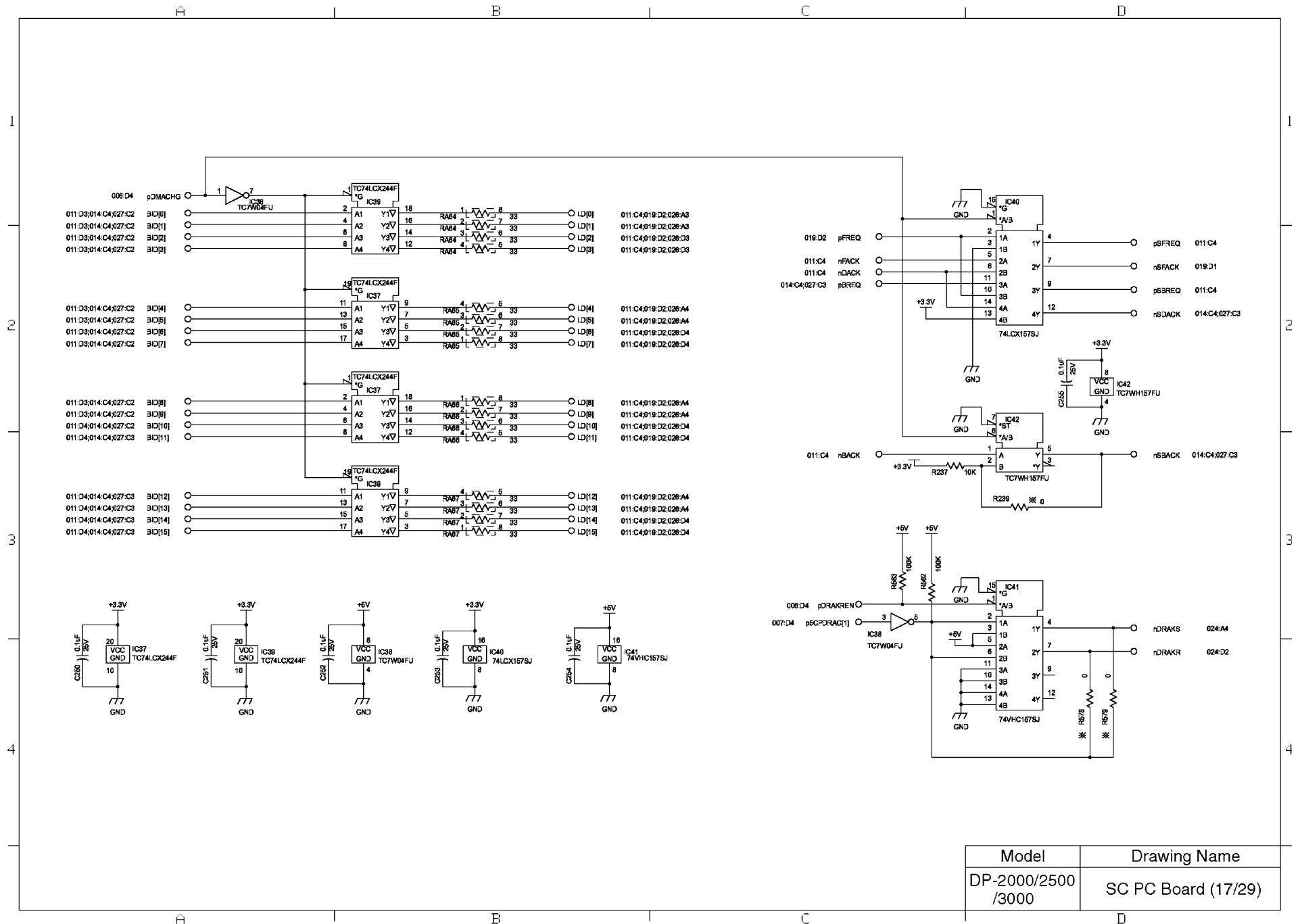
858

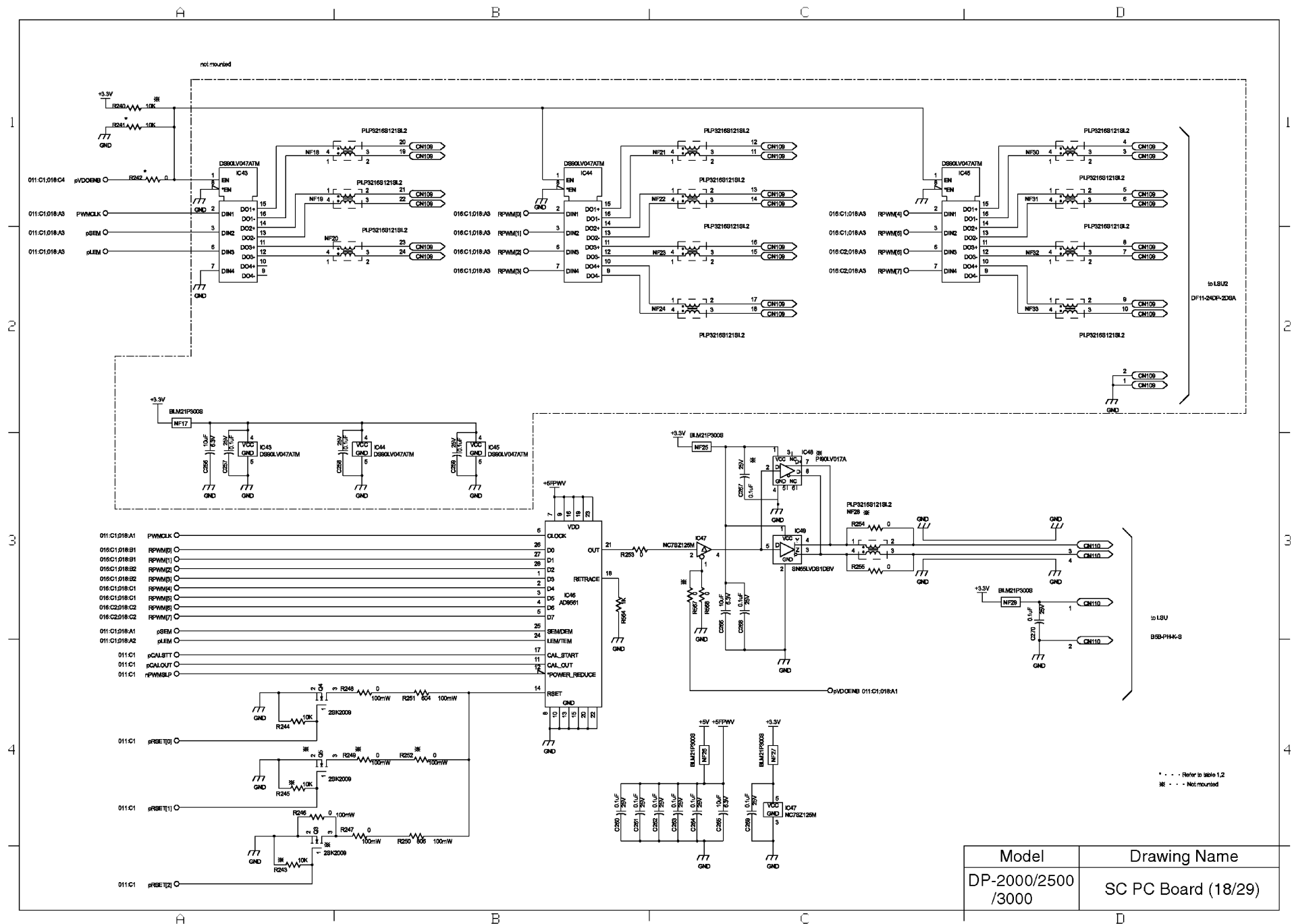








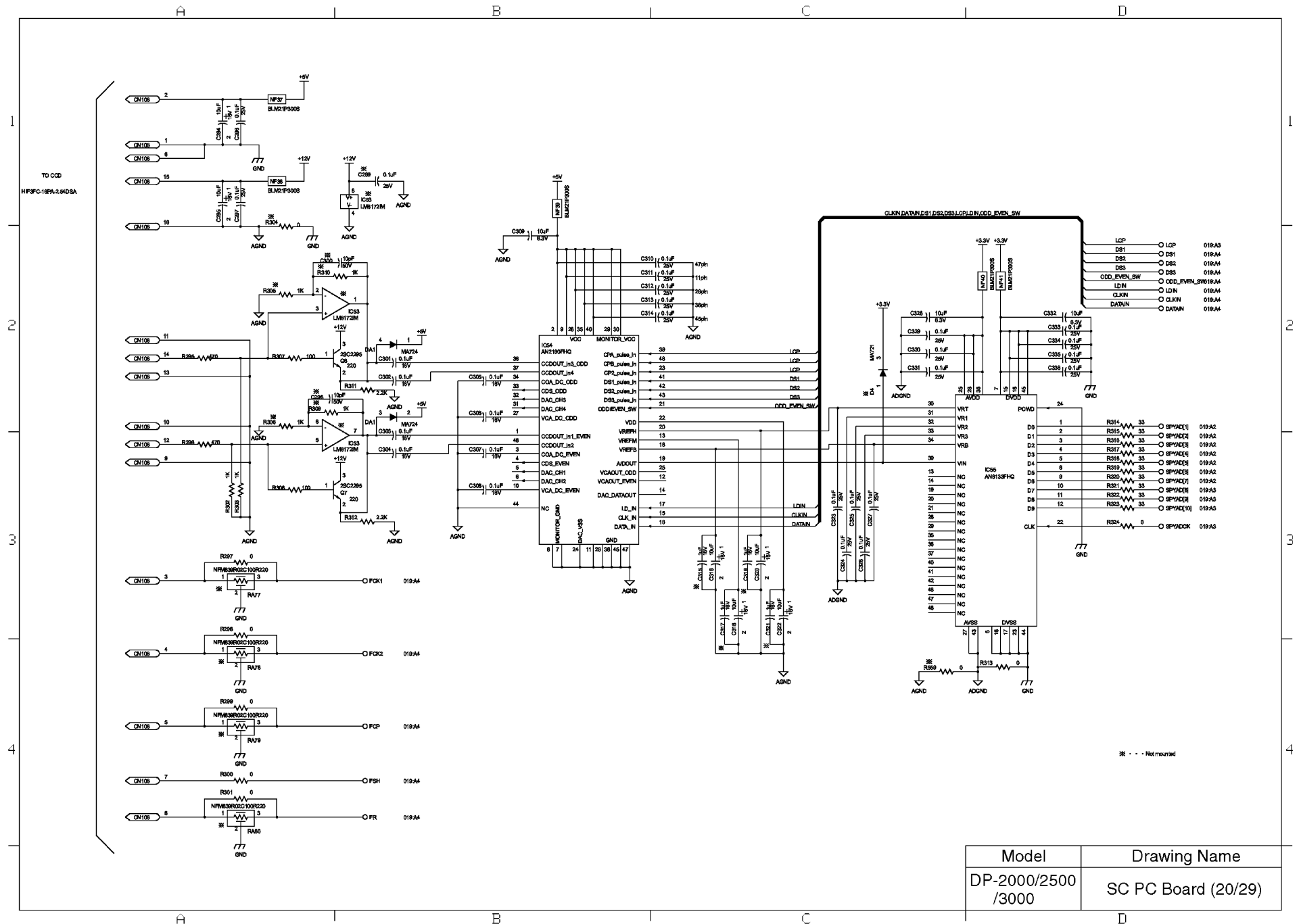




... Refer to table 1.2  
\* ... Not mounted

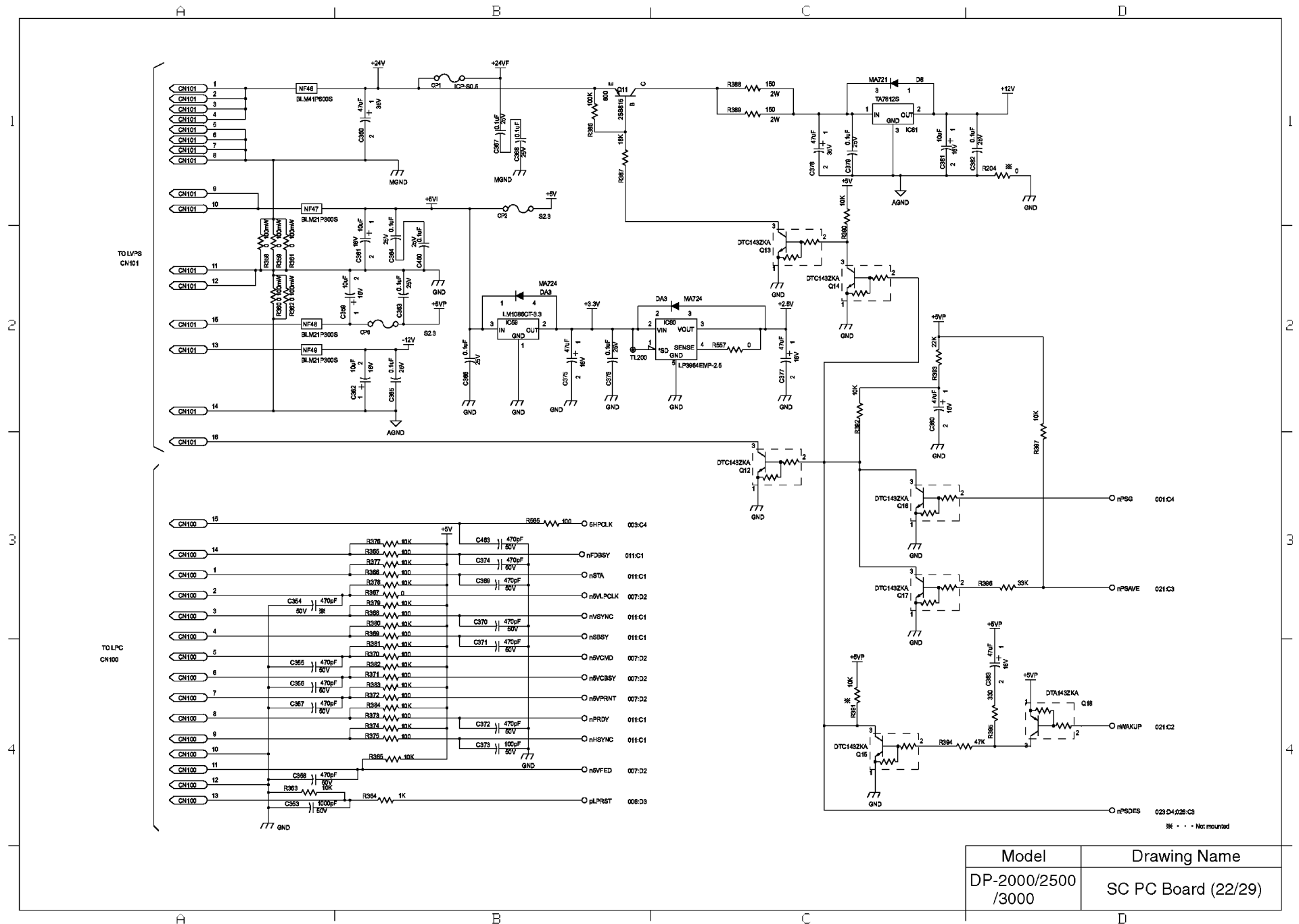
Model	Drawing Name
DP-2000/2500 /3000	SC PC Board (18/29)

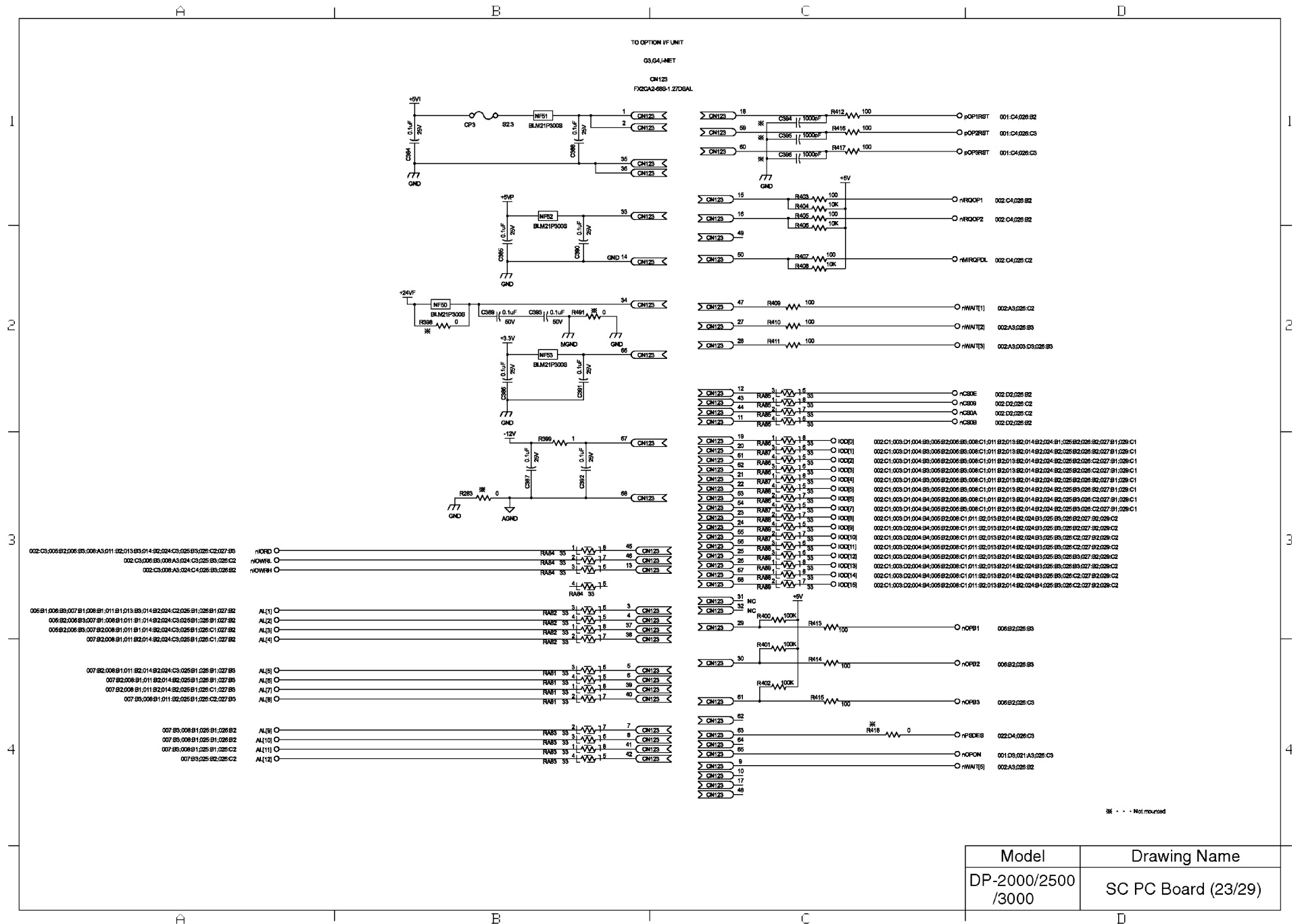


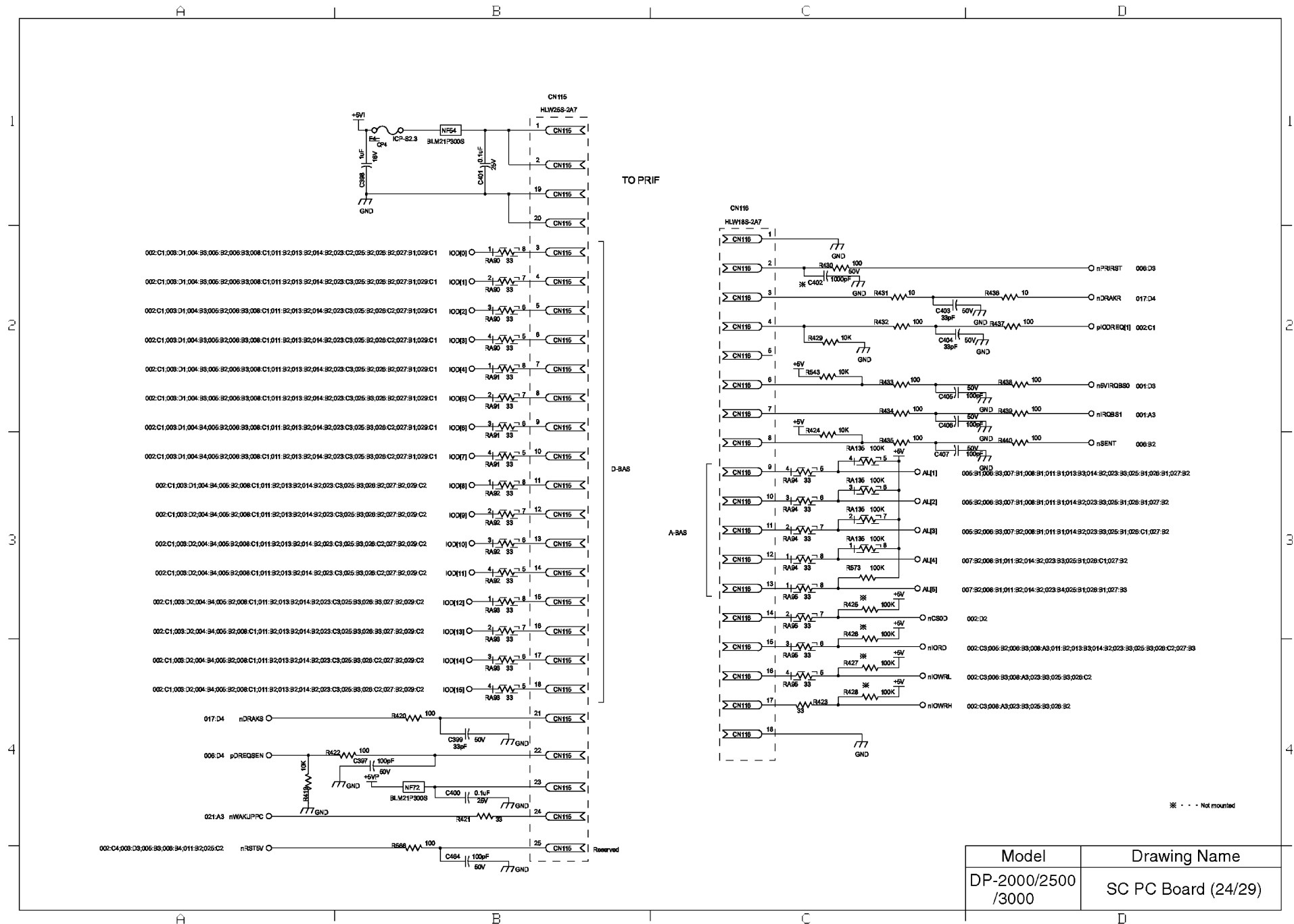








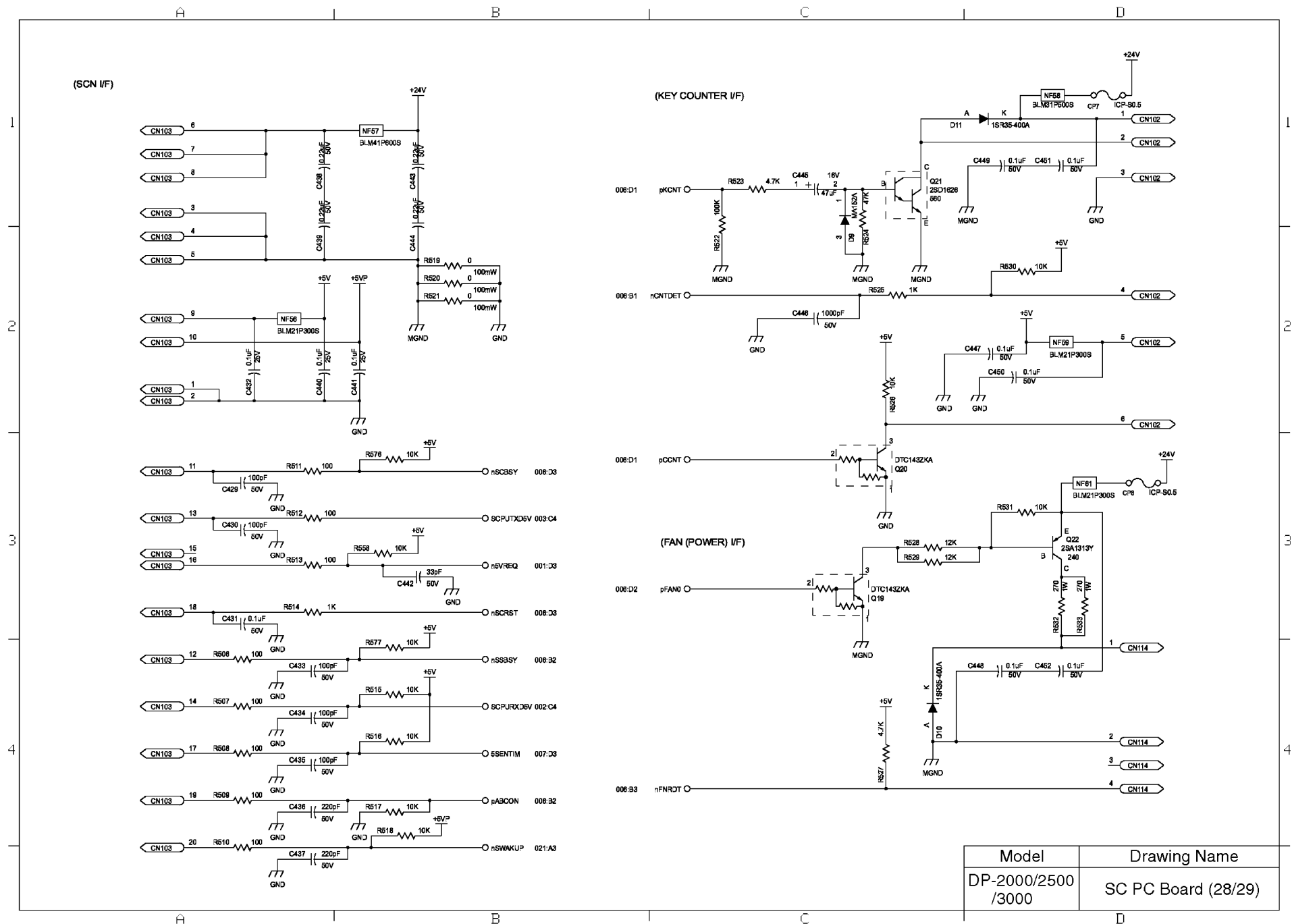


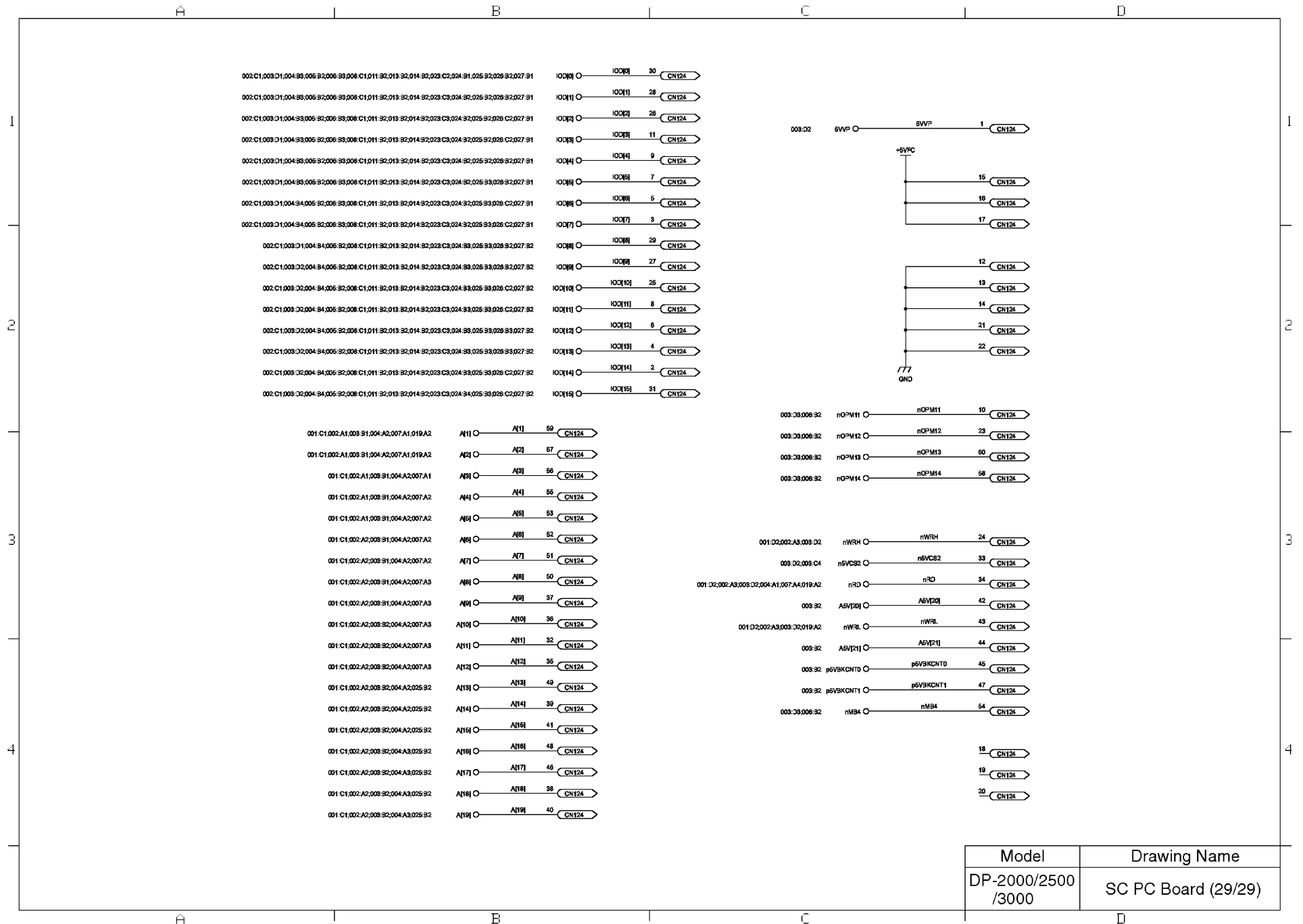






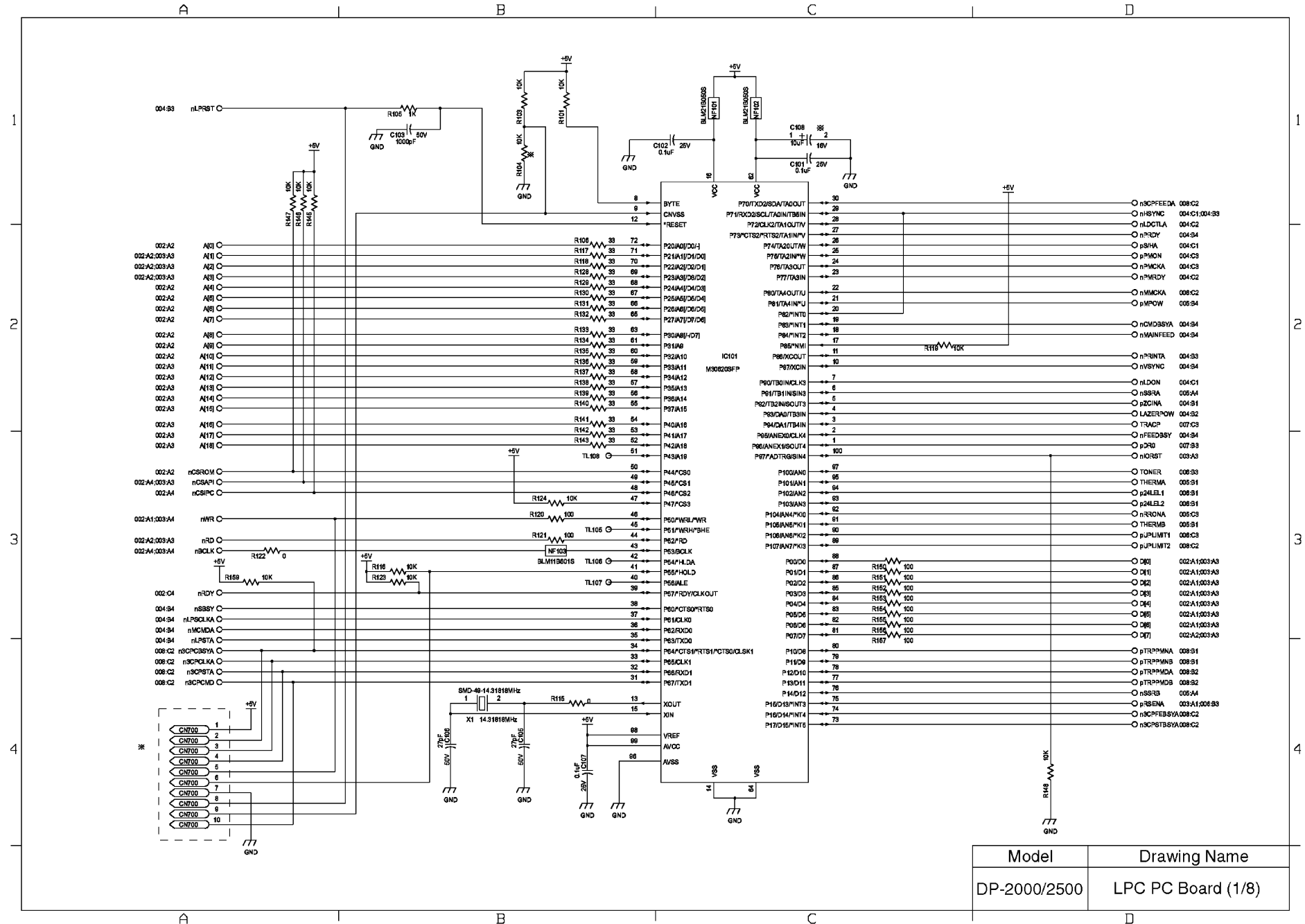




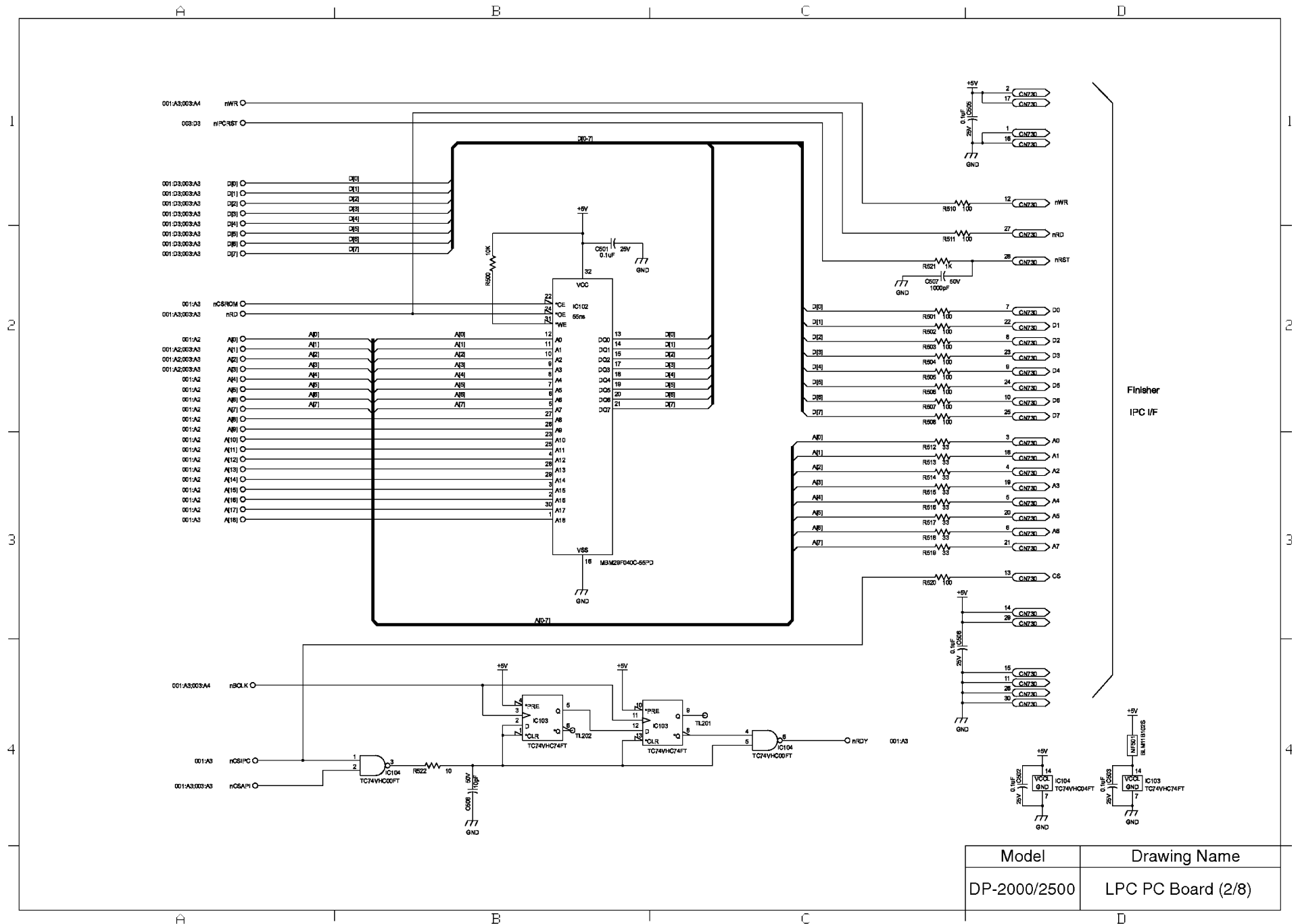


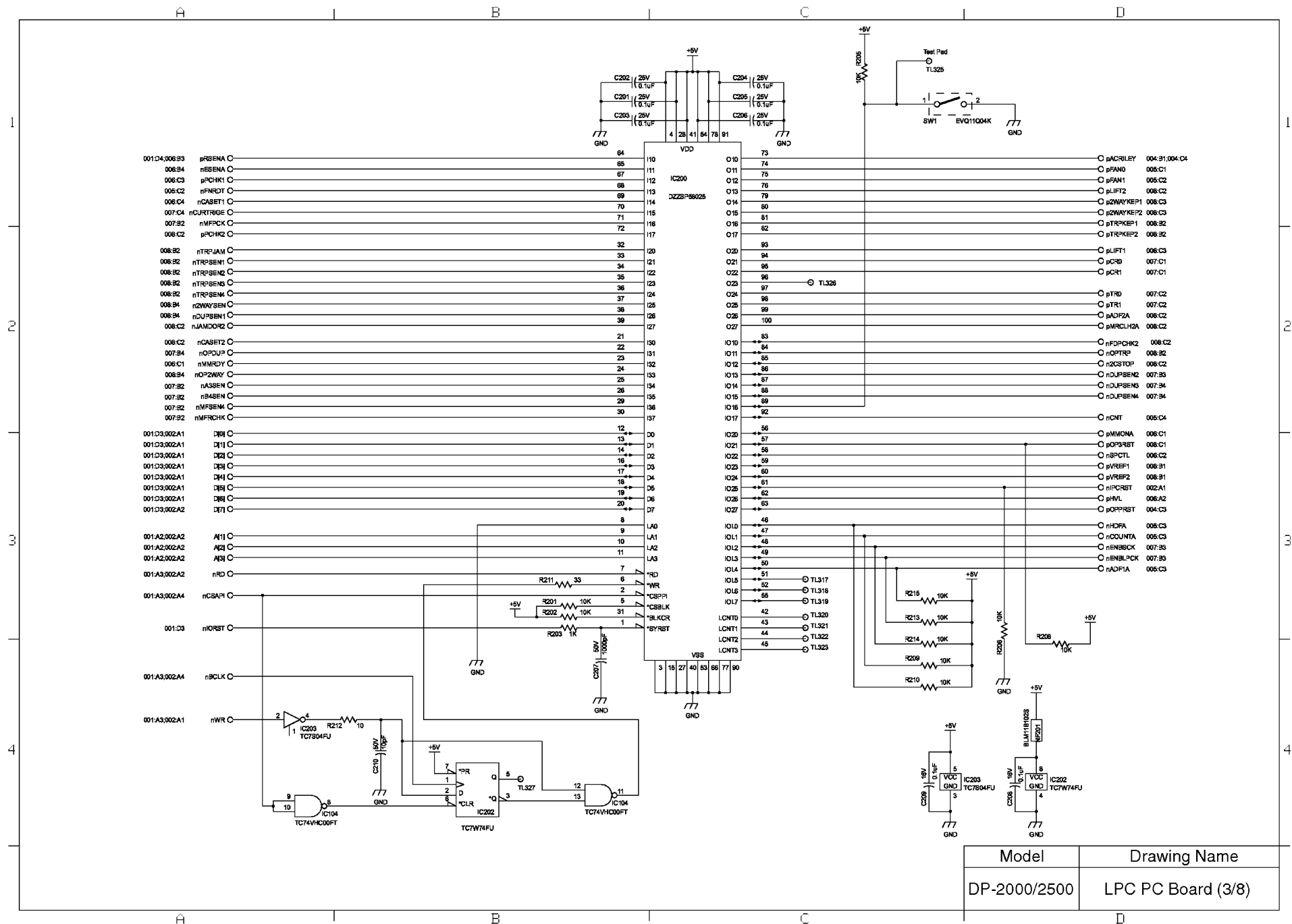


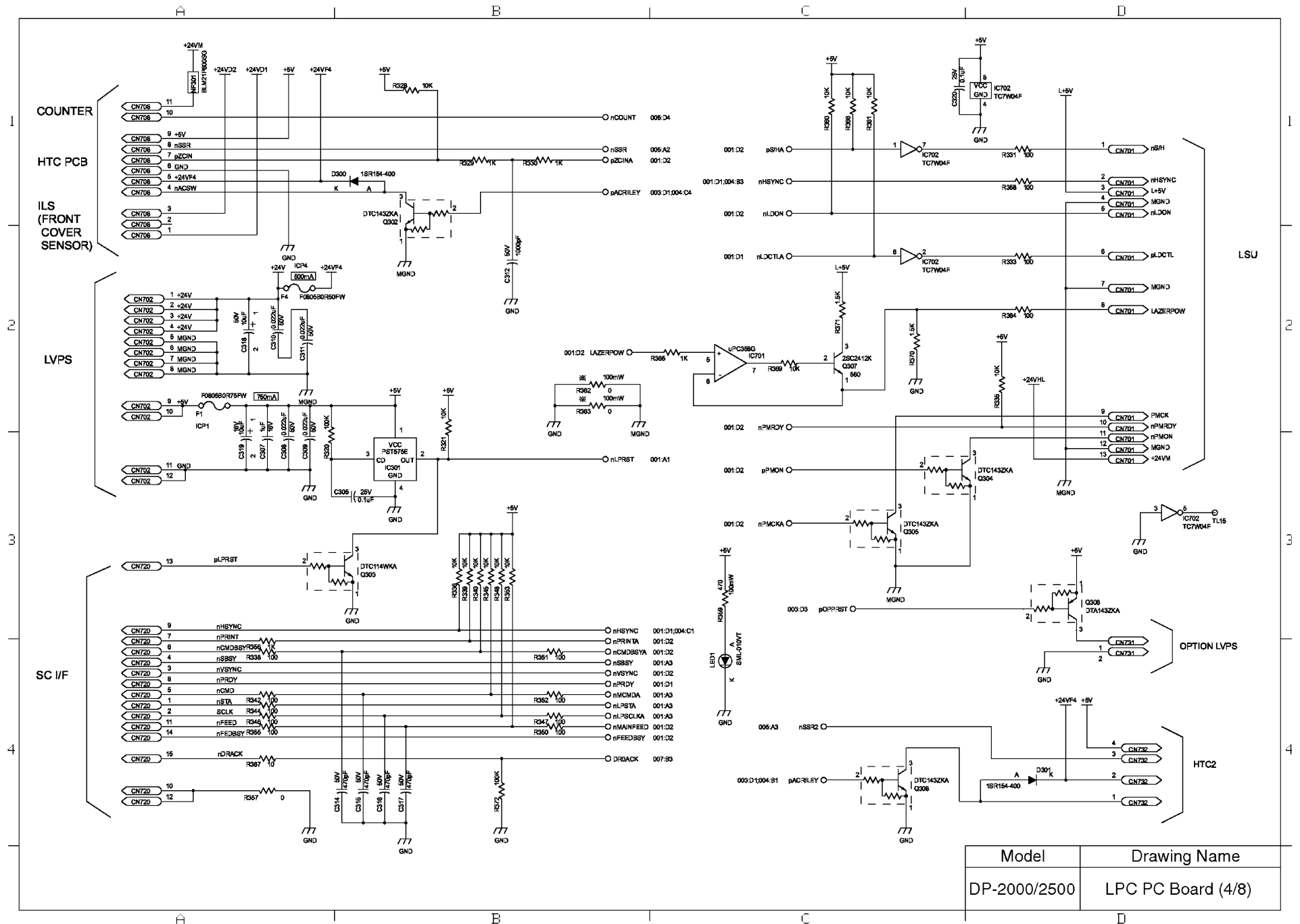
## 12.4. LPC PC Board (DP-2000/2500)



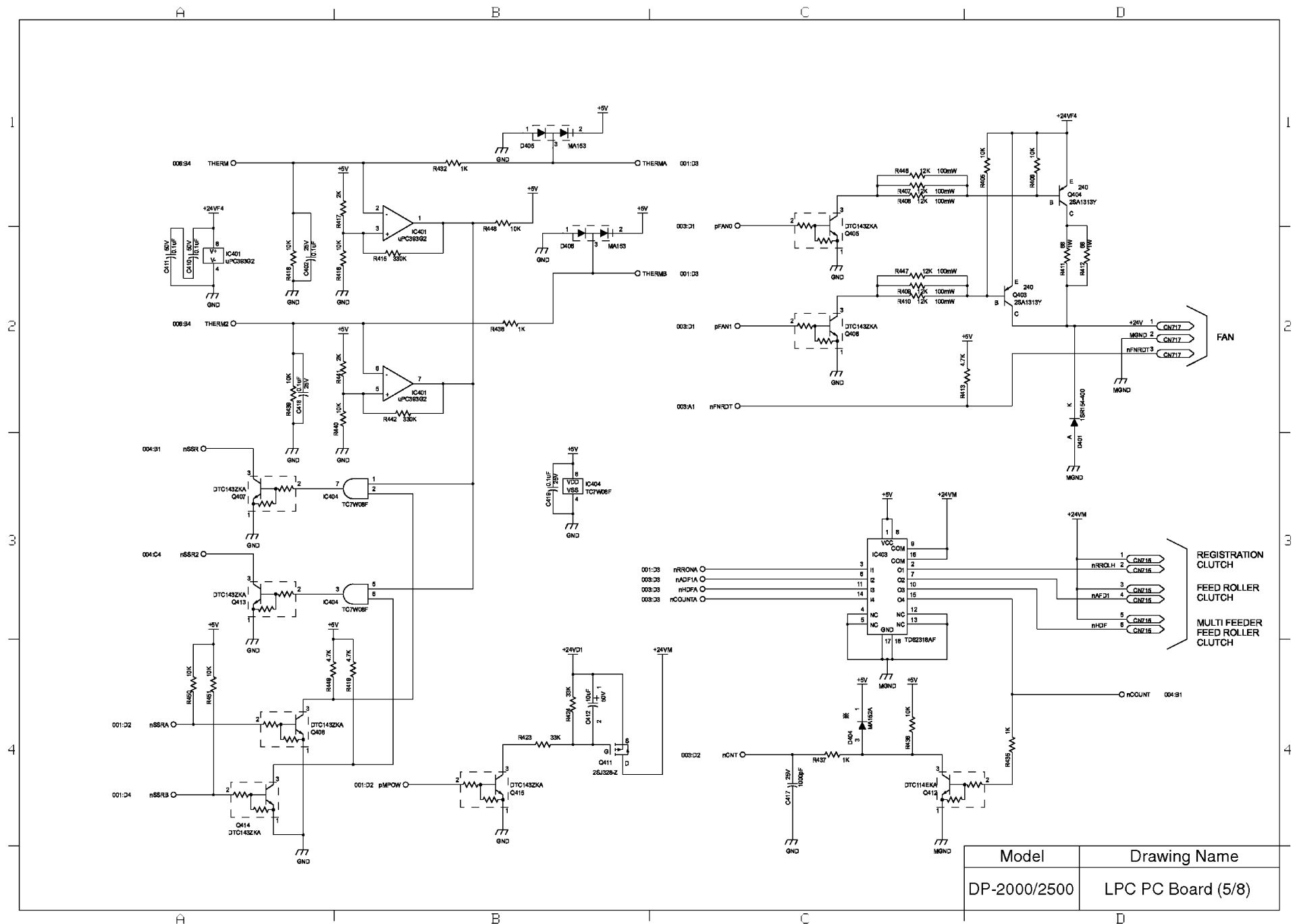
Model	Drawing Name
DP-2000/2500	LPC PC Board (1/8)



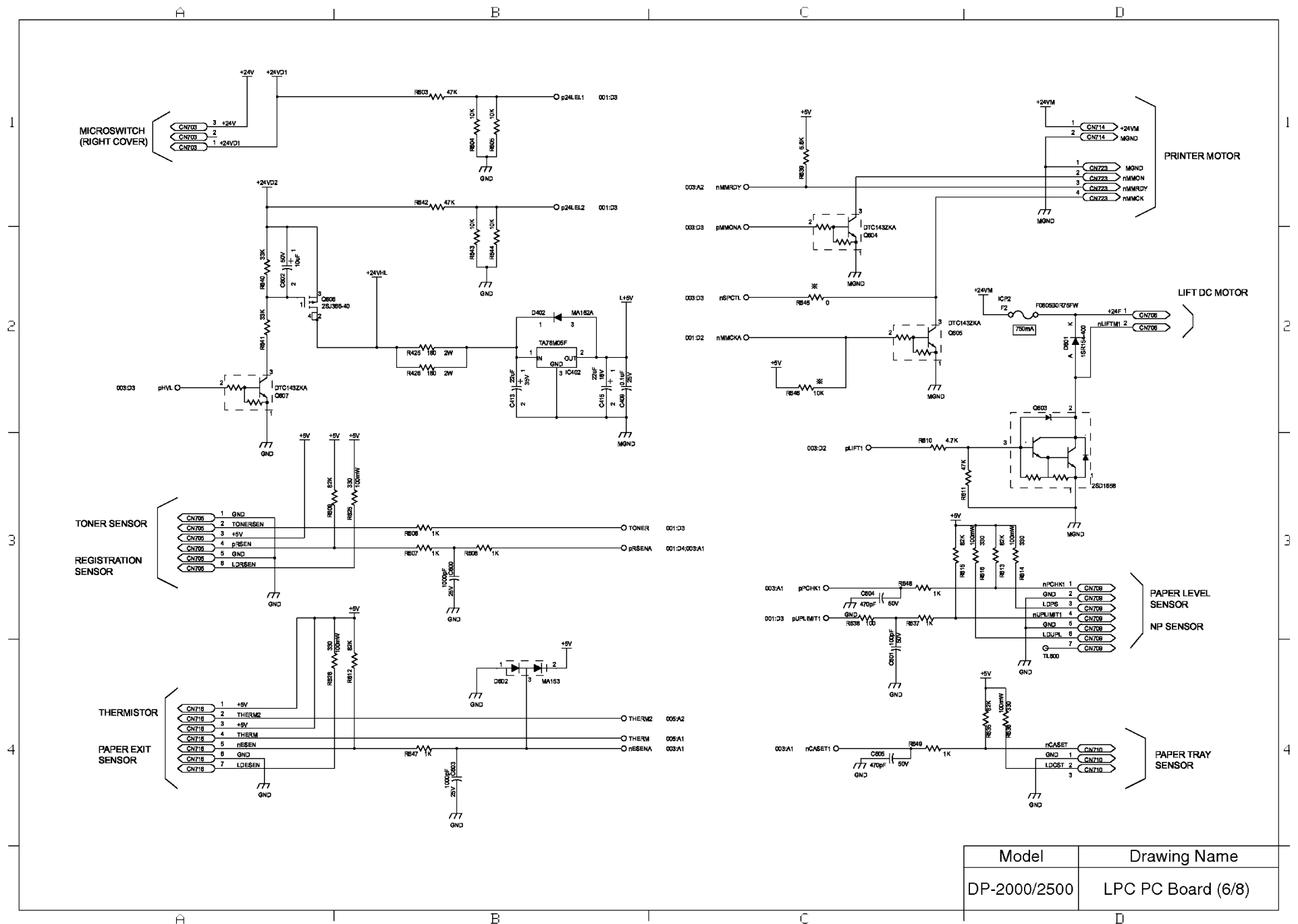


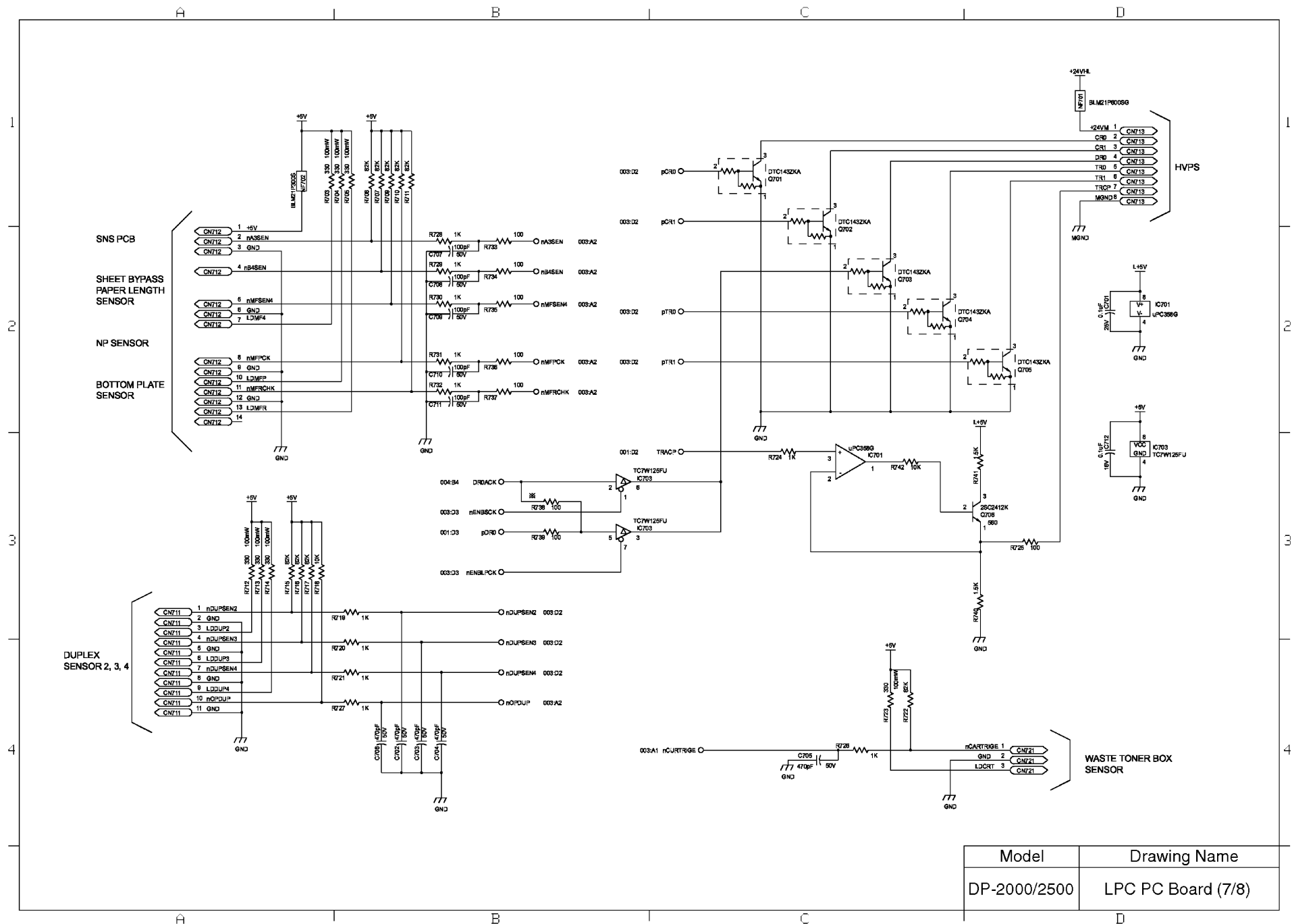


Model	Drawing Name
DP-2000/2500	LPC PC Board (4/8)

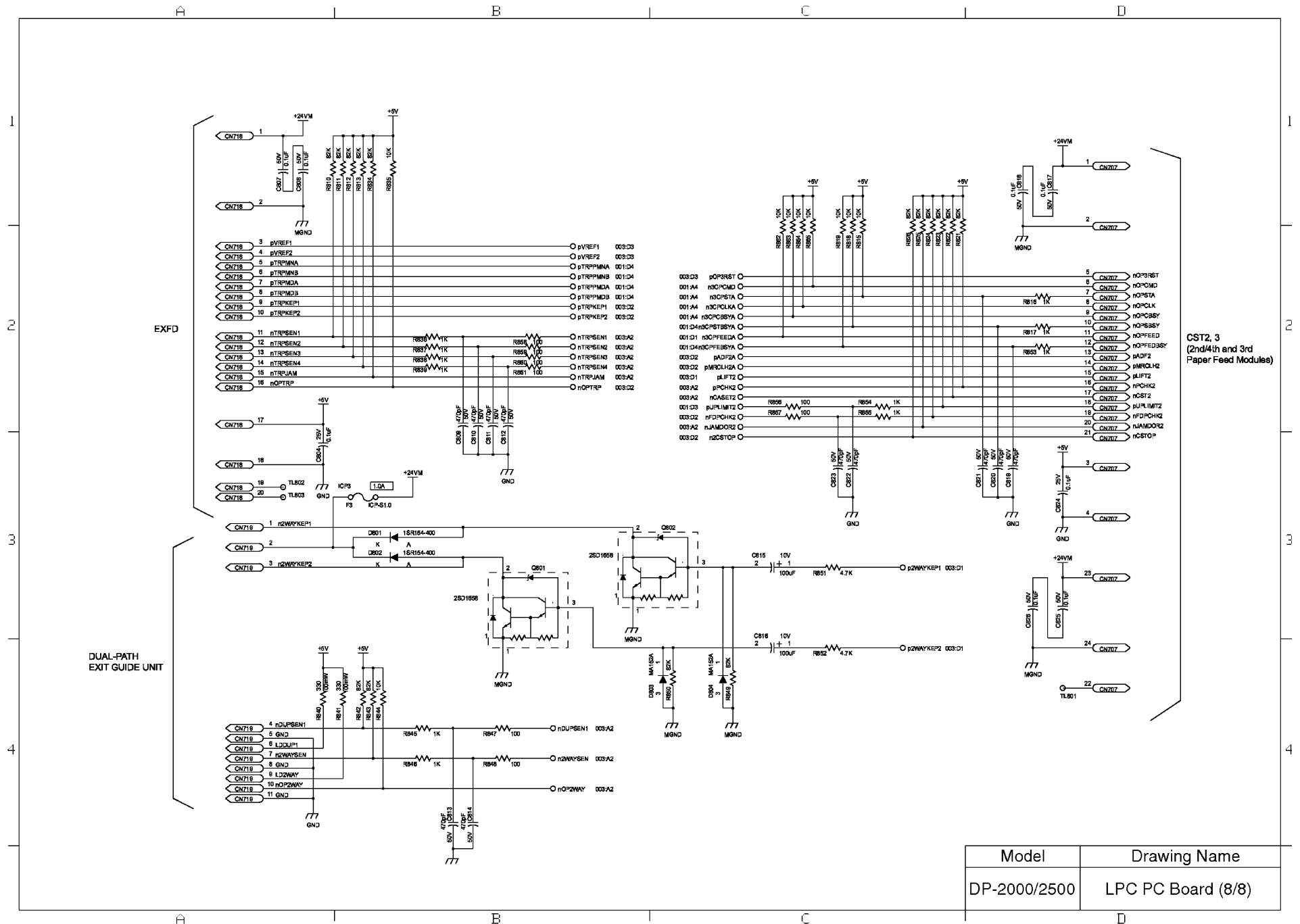


Model	Drawing Name
DP-2000/2500	LPC PC Board (5/8)



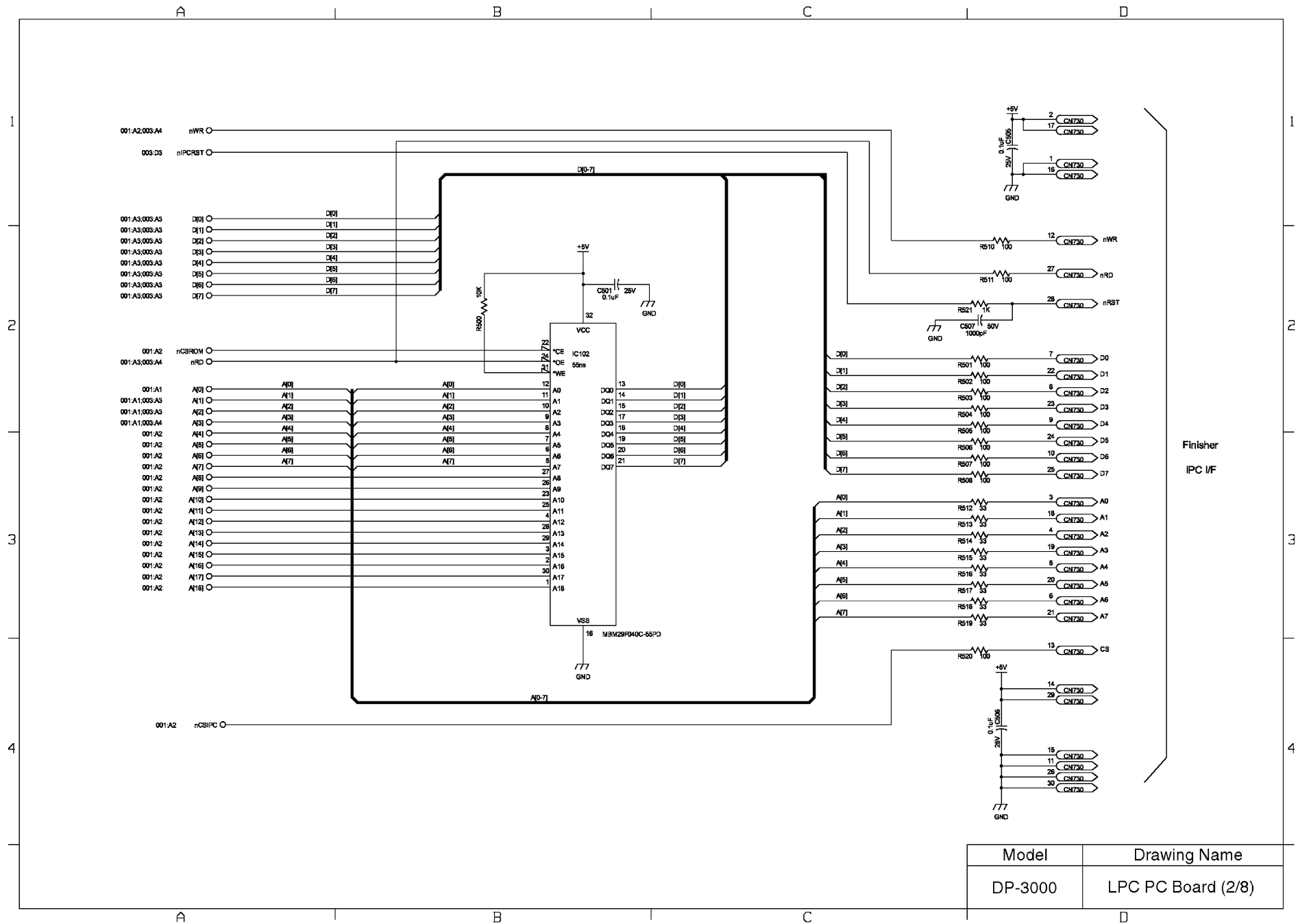


Model	Drawing Name
DP-2000/2500	LPC PC Board (7/8)



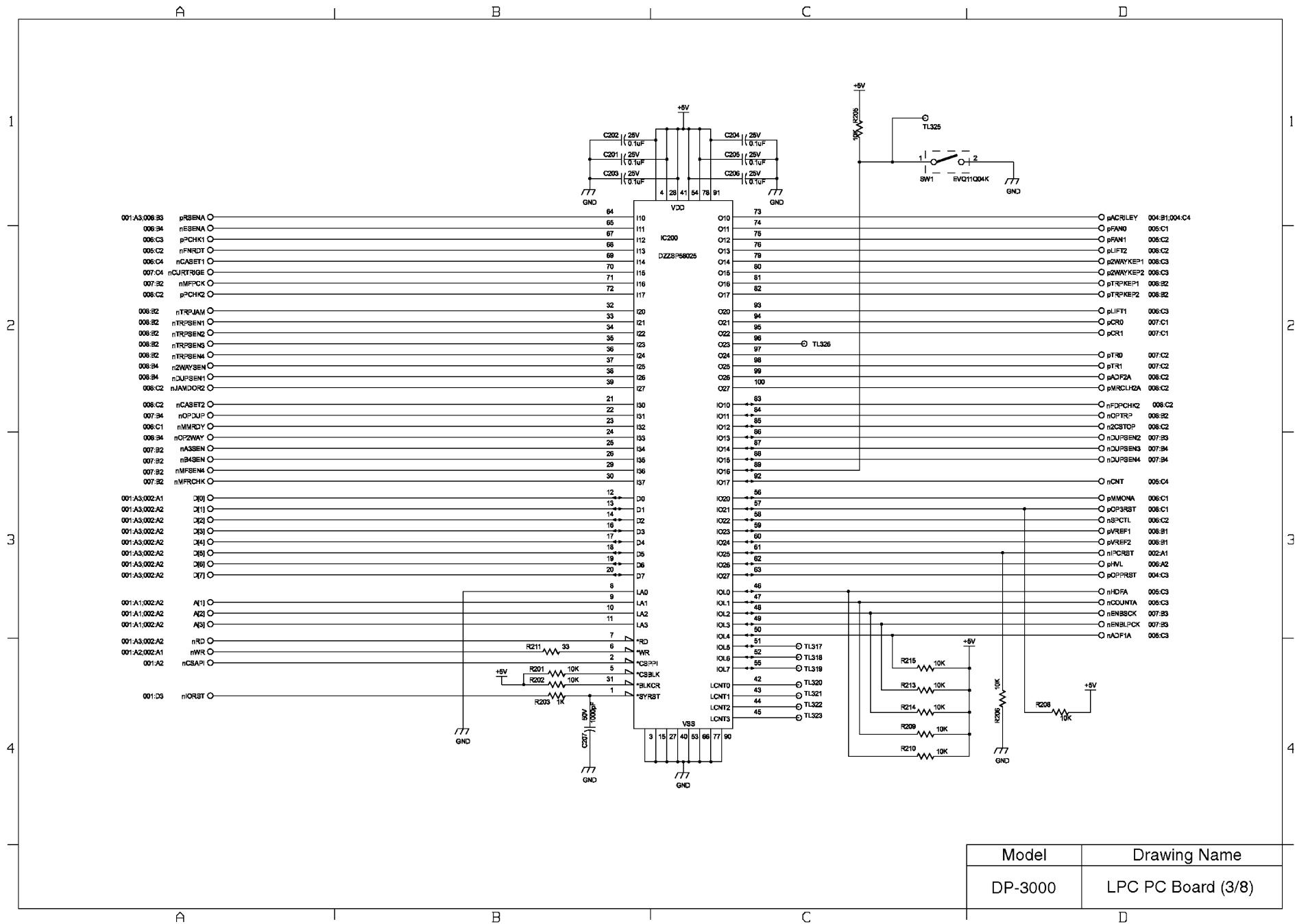






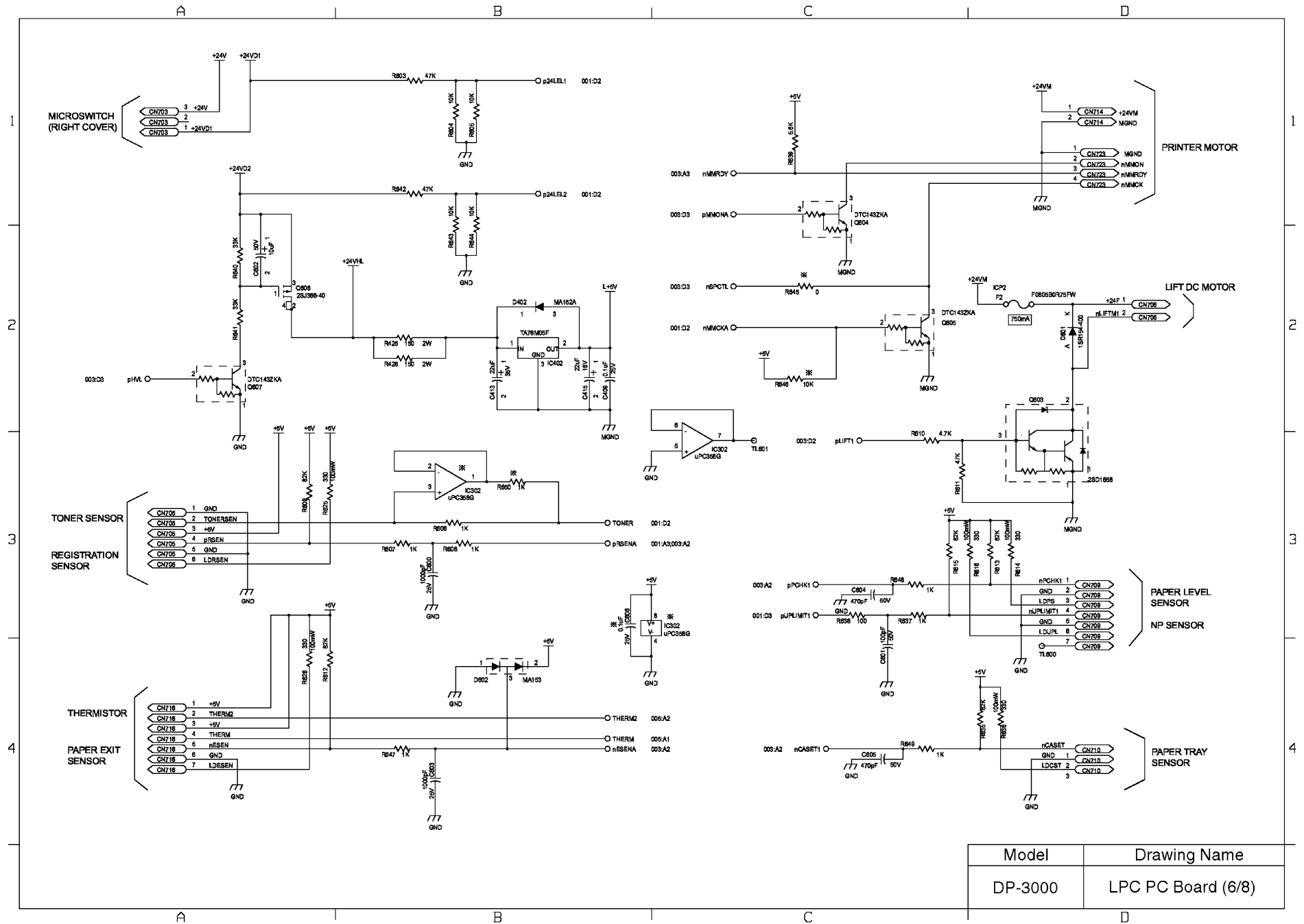
Finisher  
IPC I/F

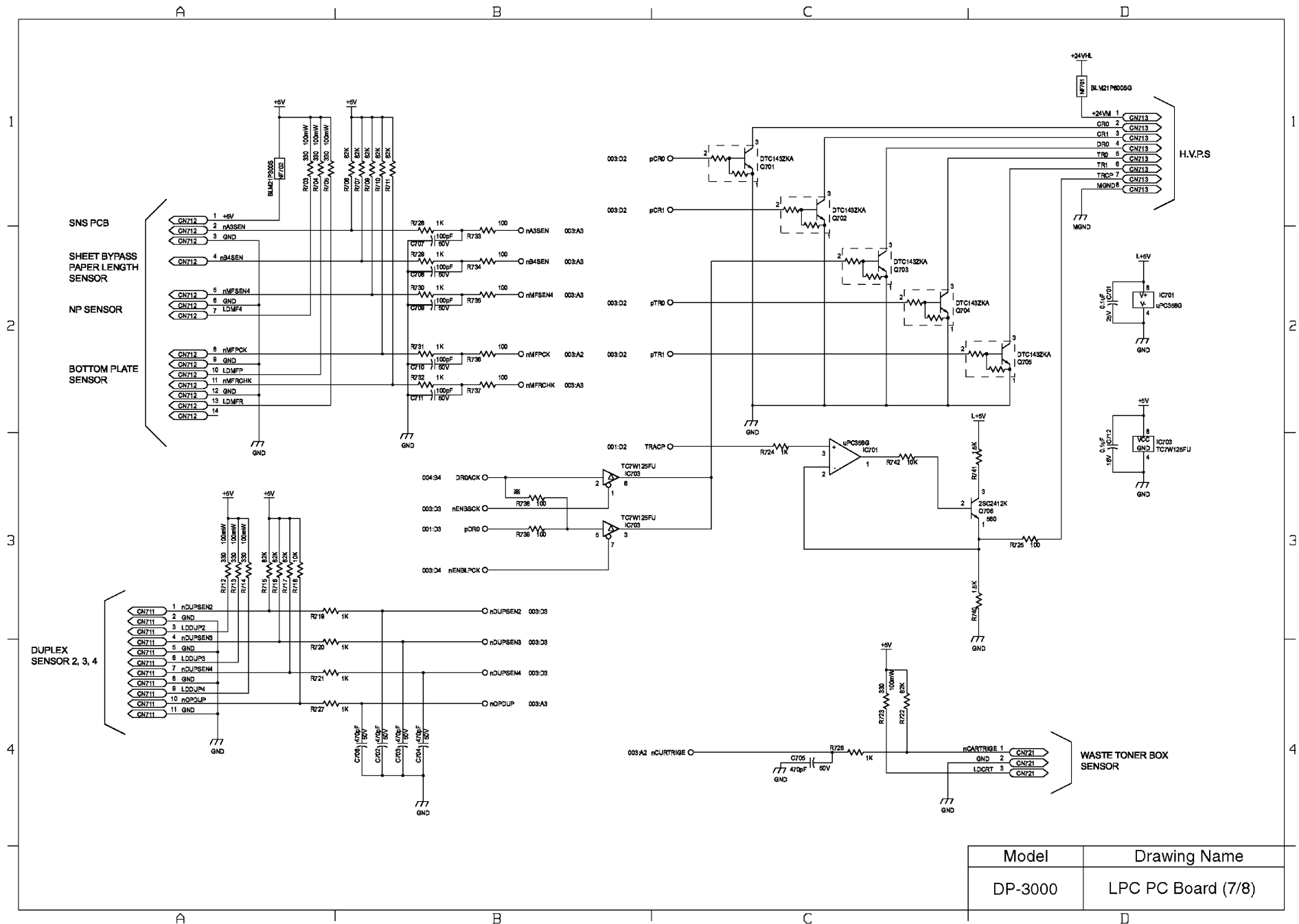
Model	Drawing Name
DP-3000	LPC PC Board (2/8)

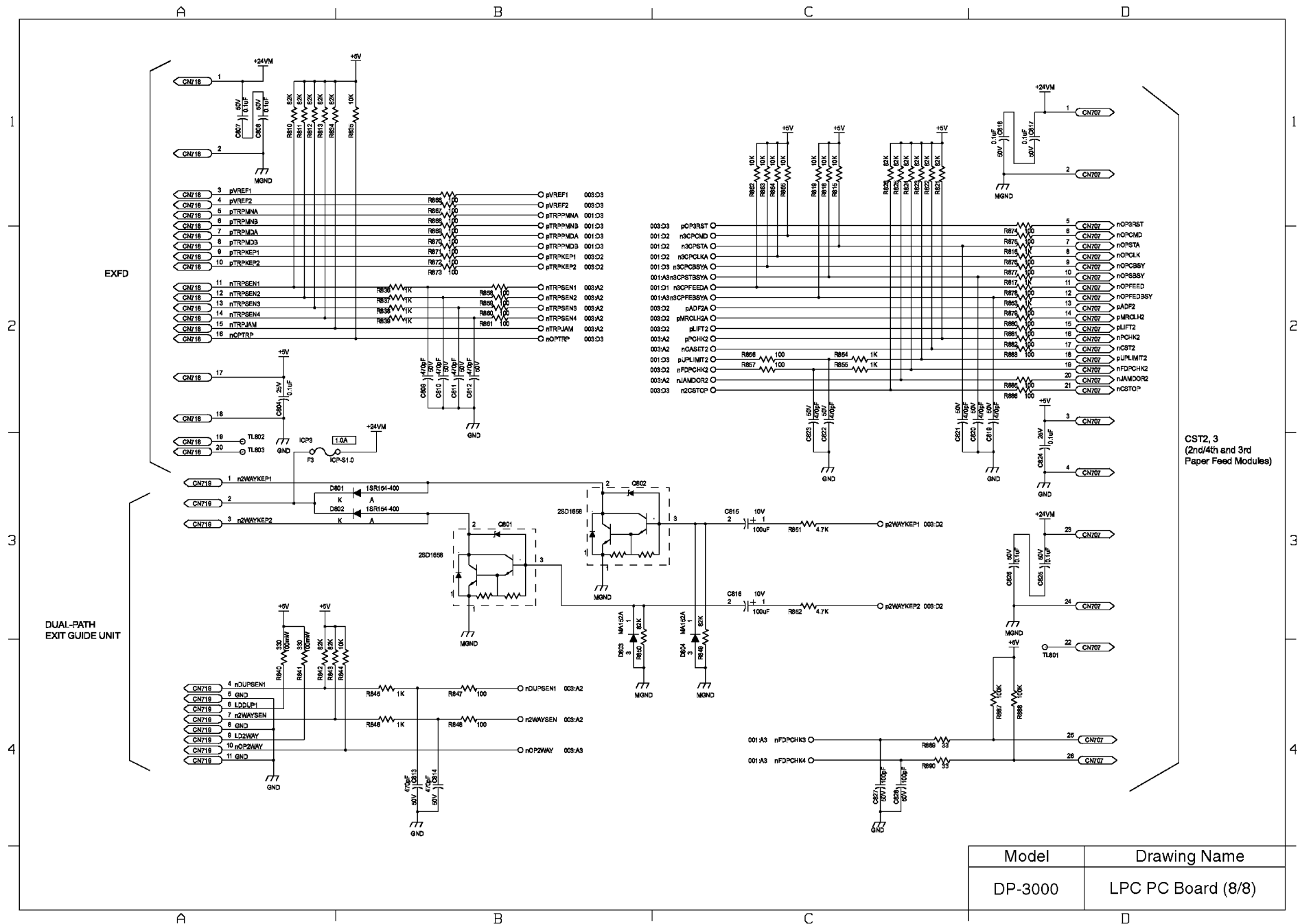






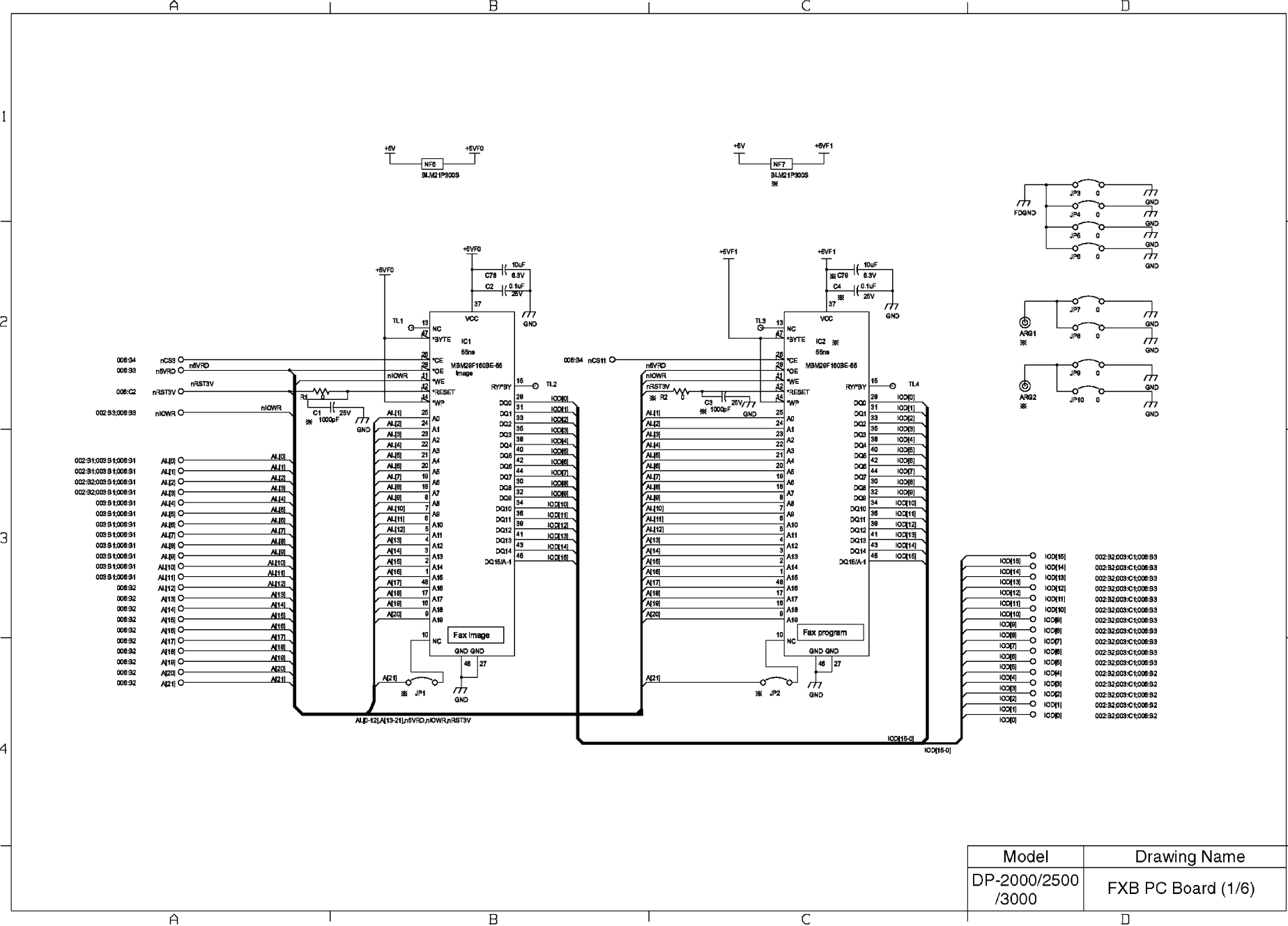




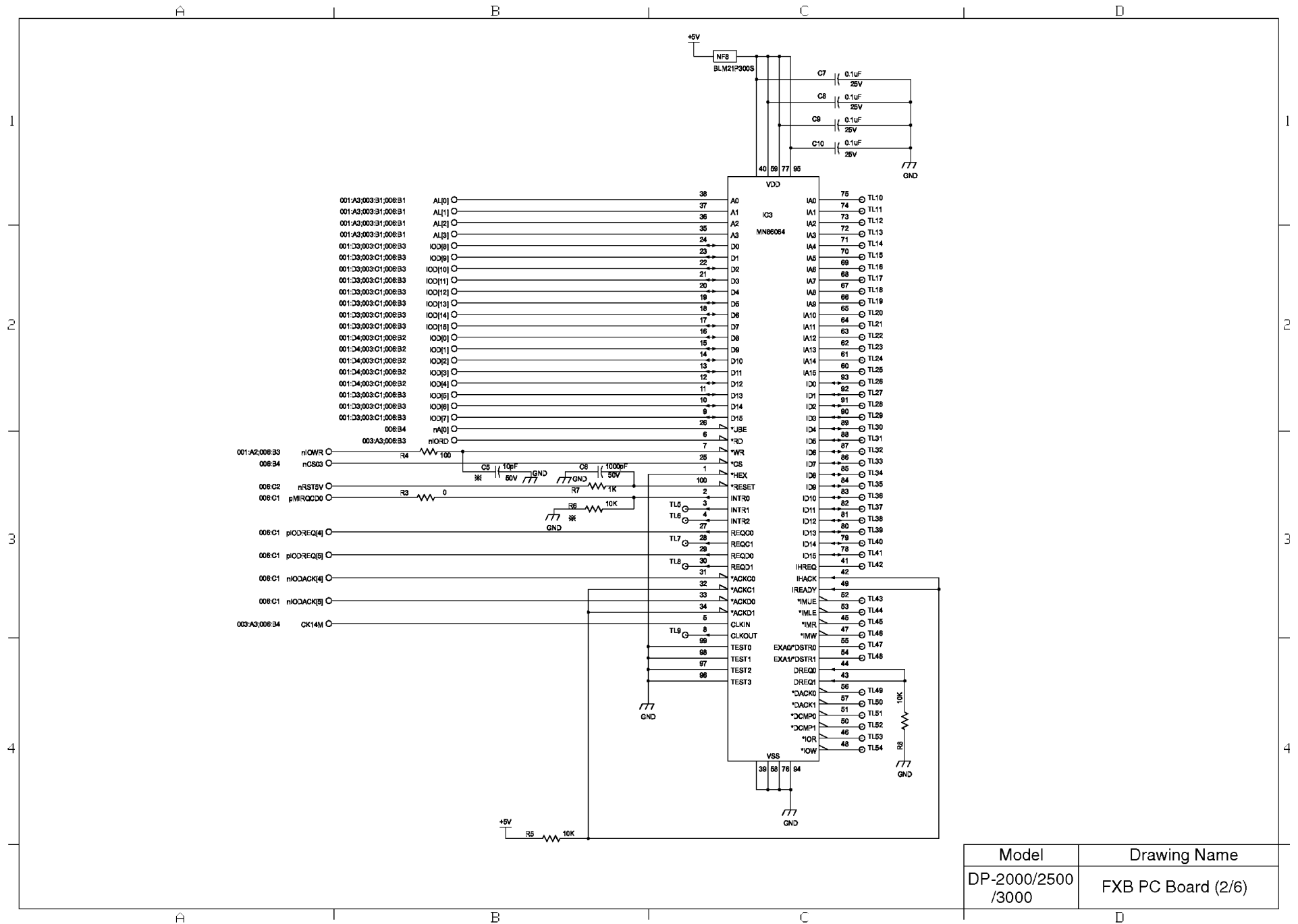


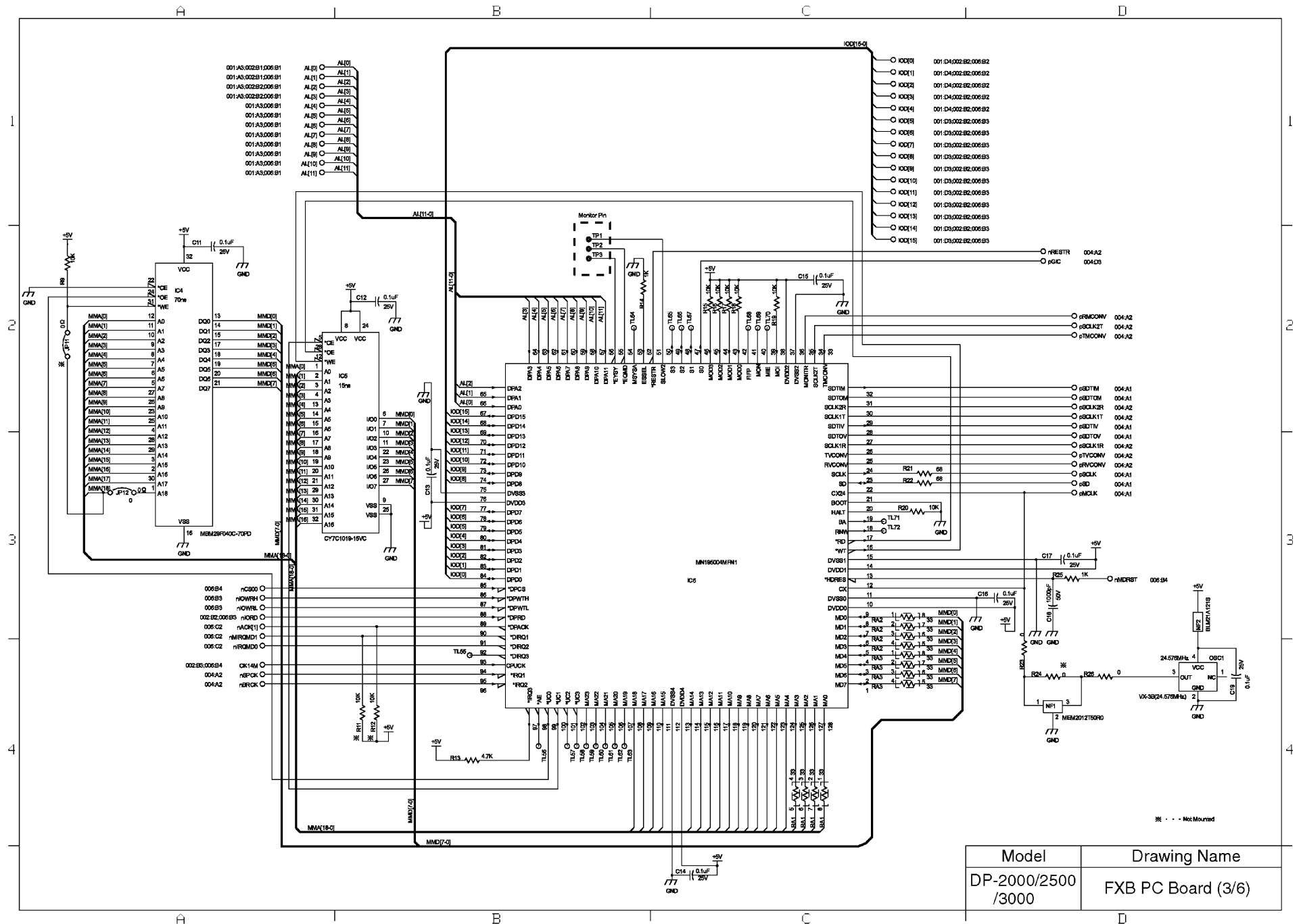


12.6. FXB PC Board

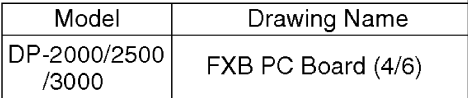


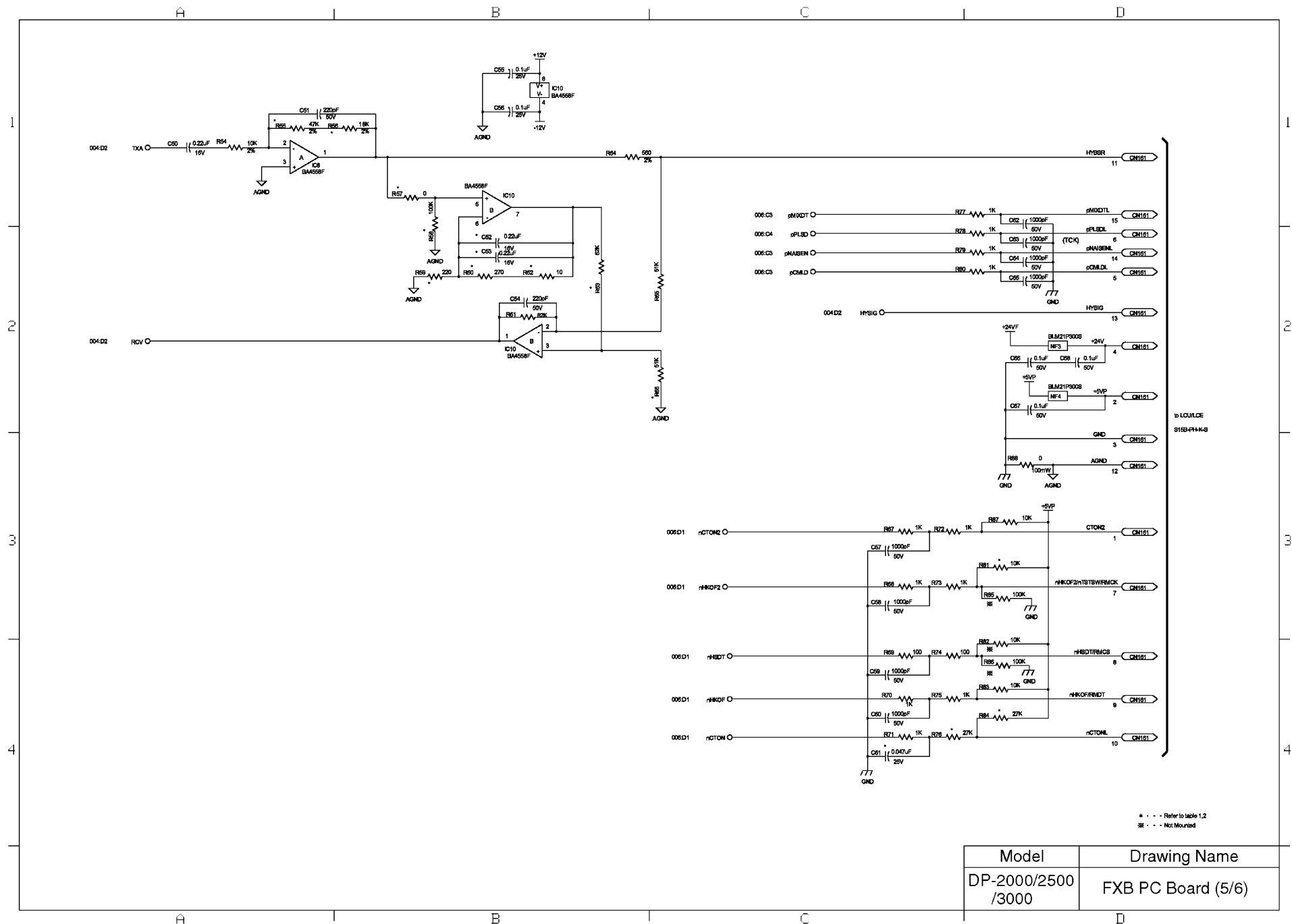
Model	Drawing Name
DP-2000/2500 /3000	FXB PC Board (1/6)





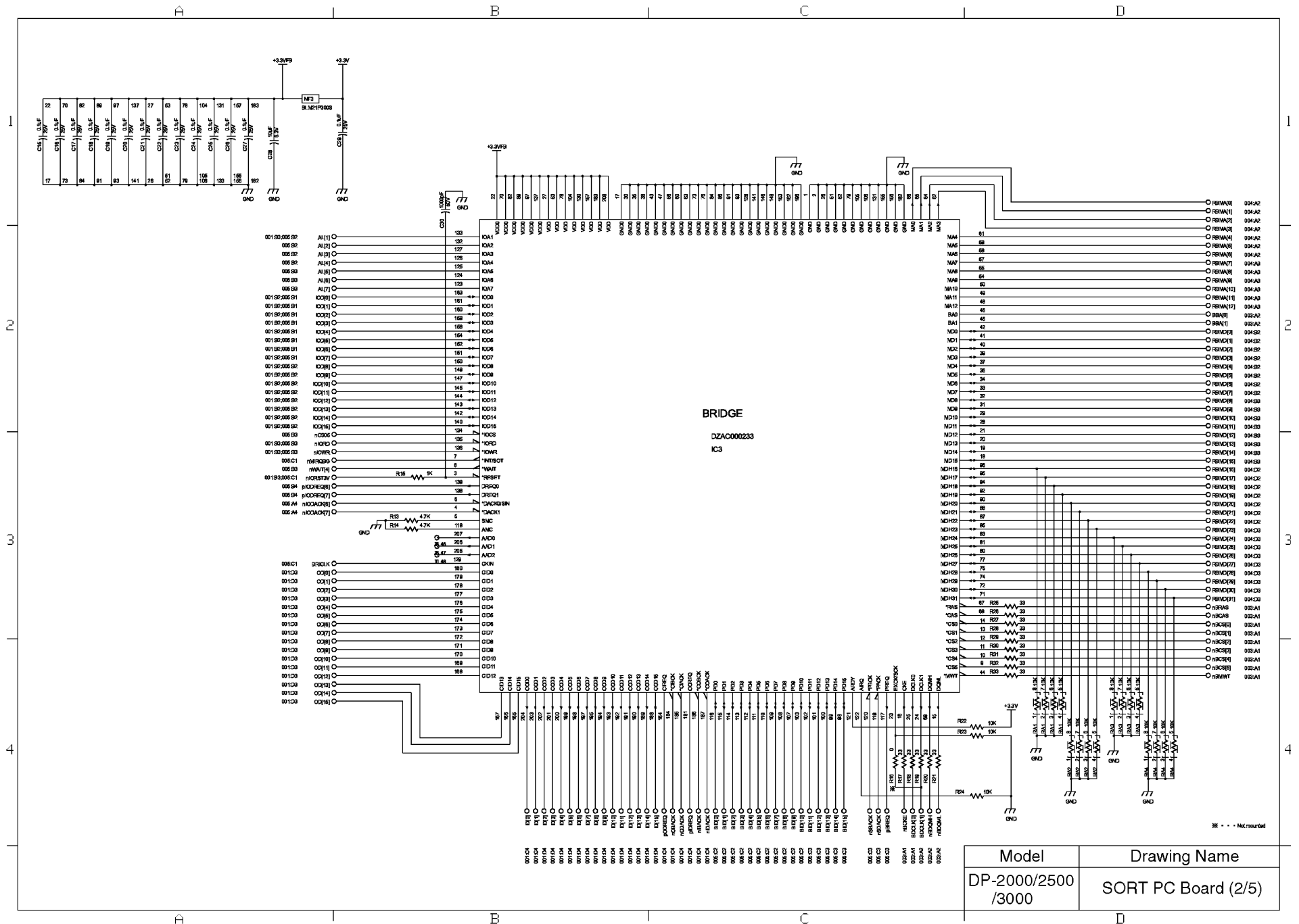
Model	Drawing Name
DP-2000/2500 /3000	FXB PC Board (3/6)



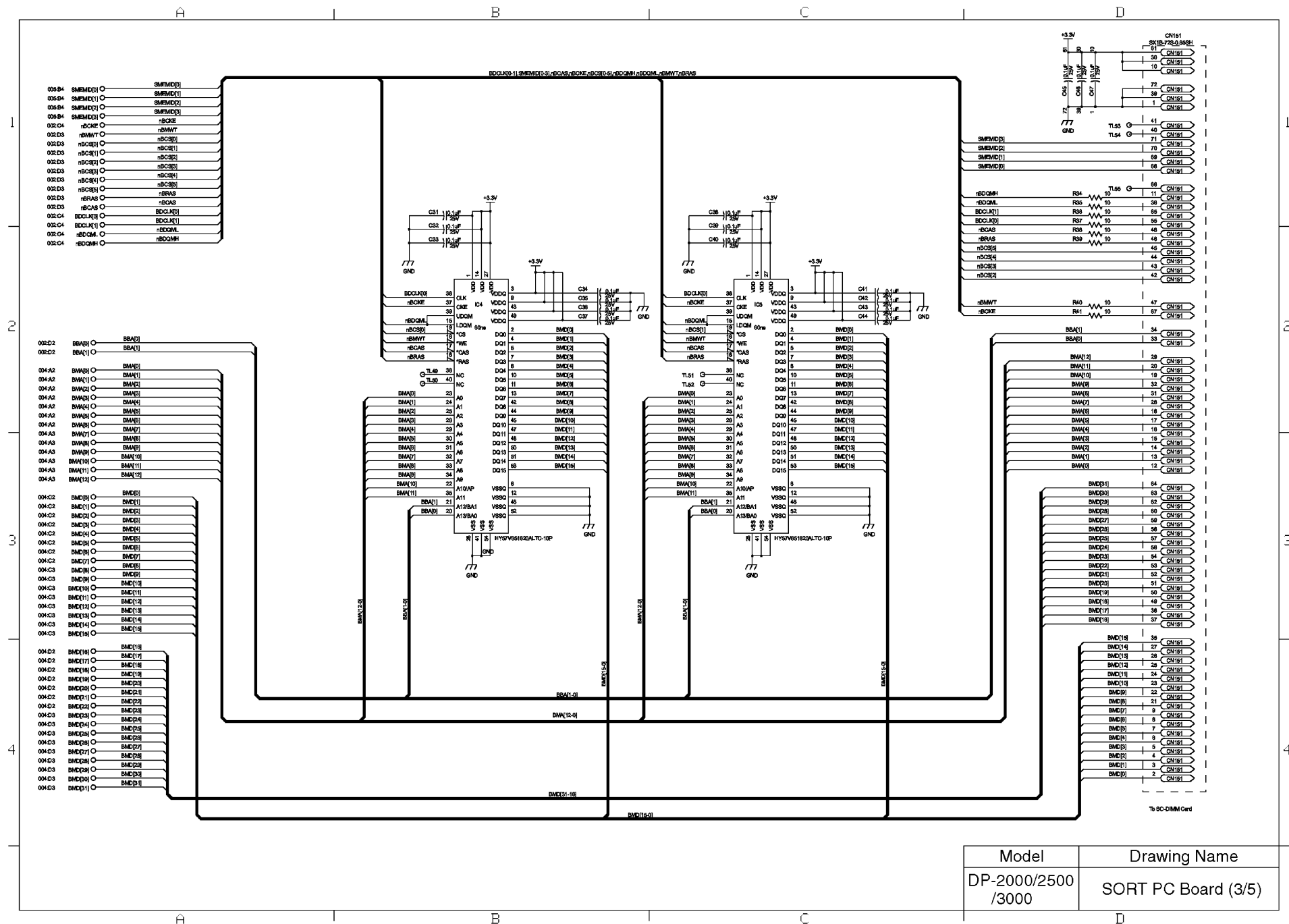


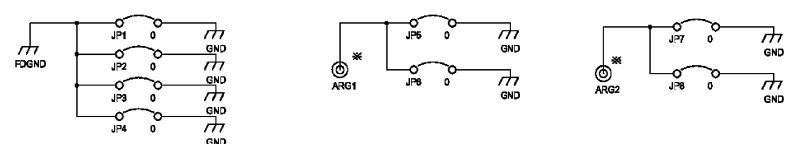
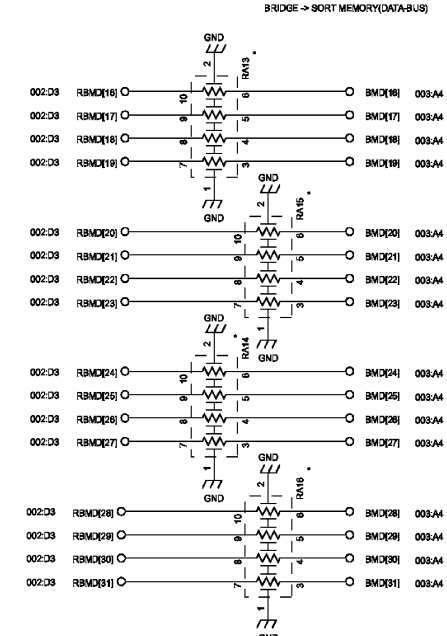
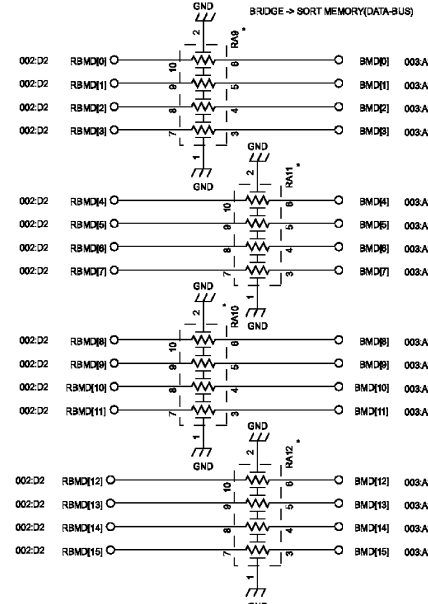
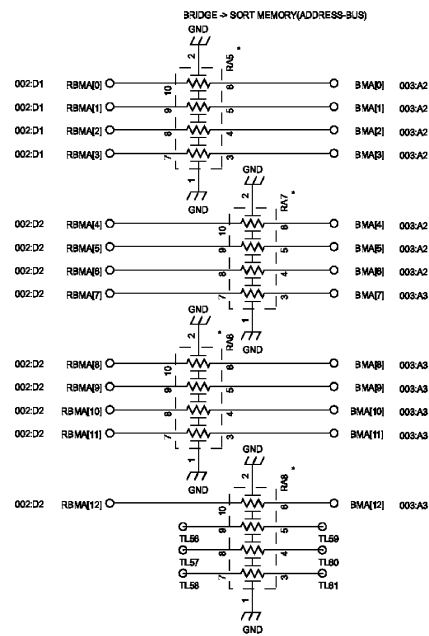










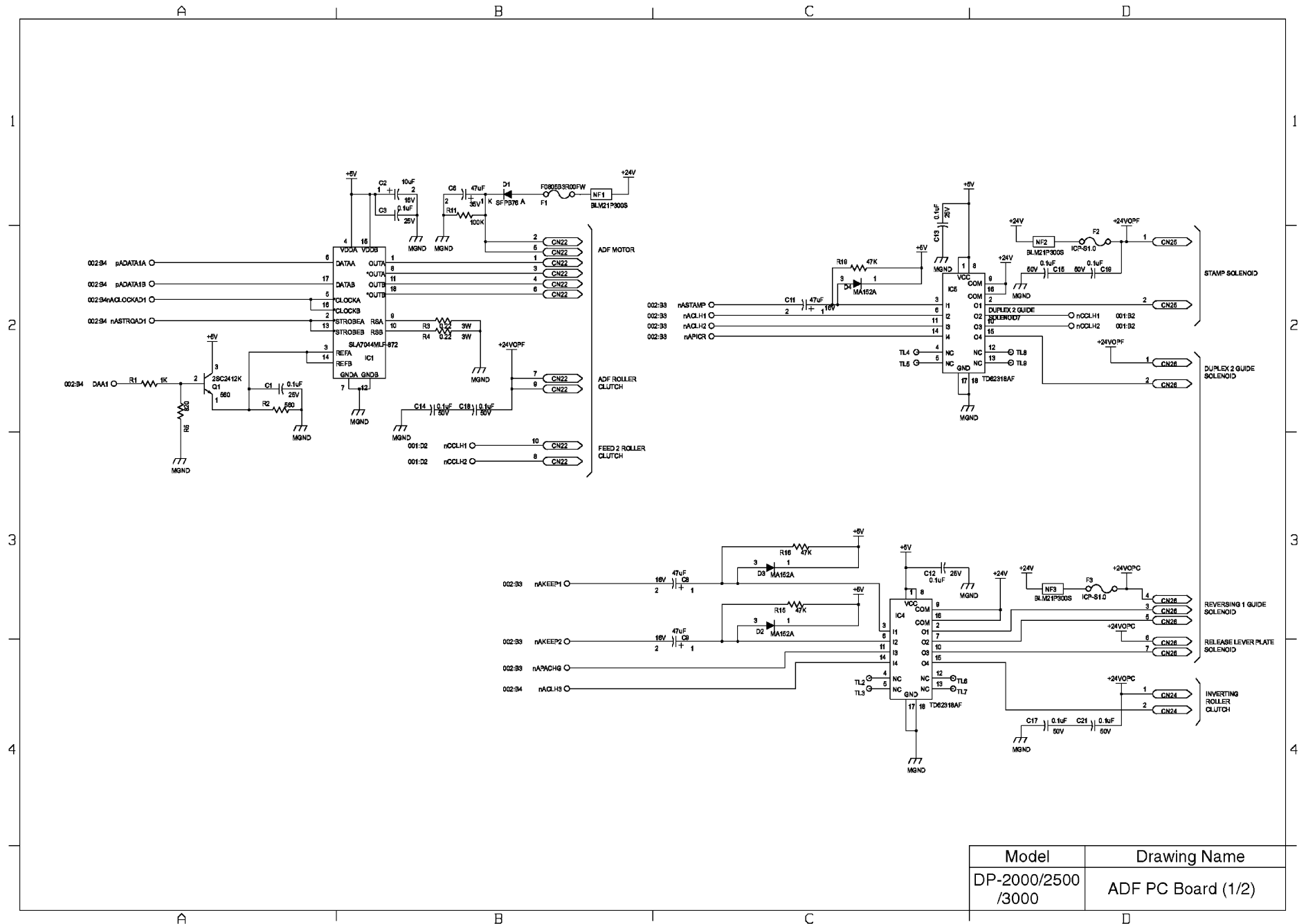


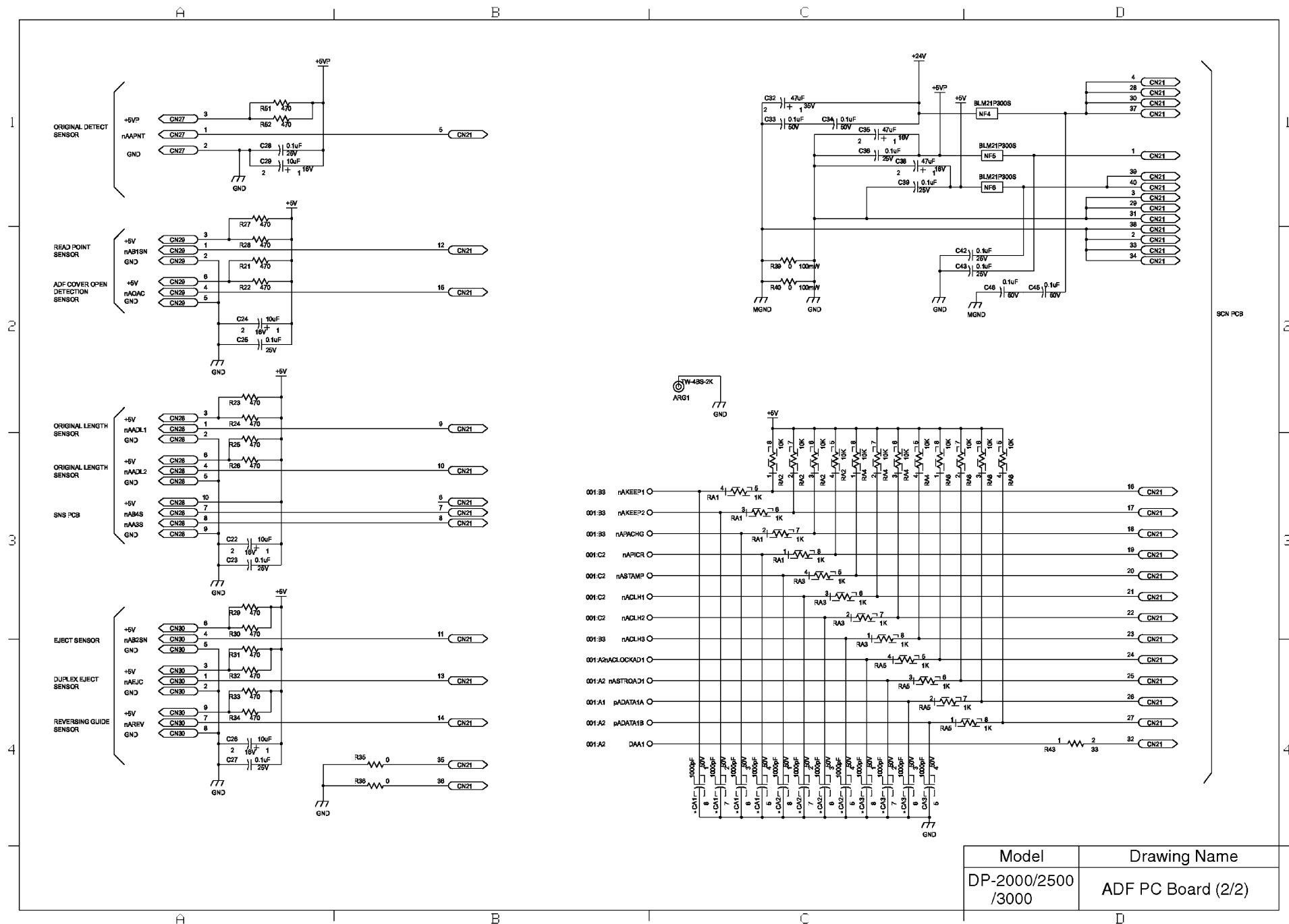
... EKBV8V330 mounted  
 \* ... Not Mounted

Model	Drawing Name
DP-2000/2500 /3000	SORT PC Board (4/5)

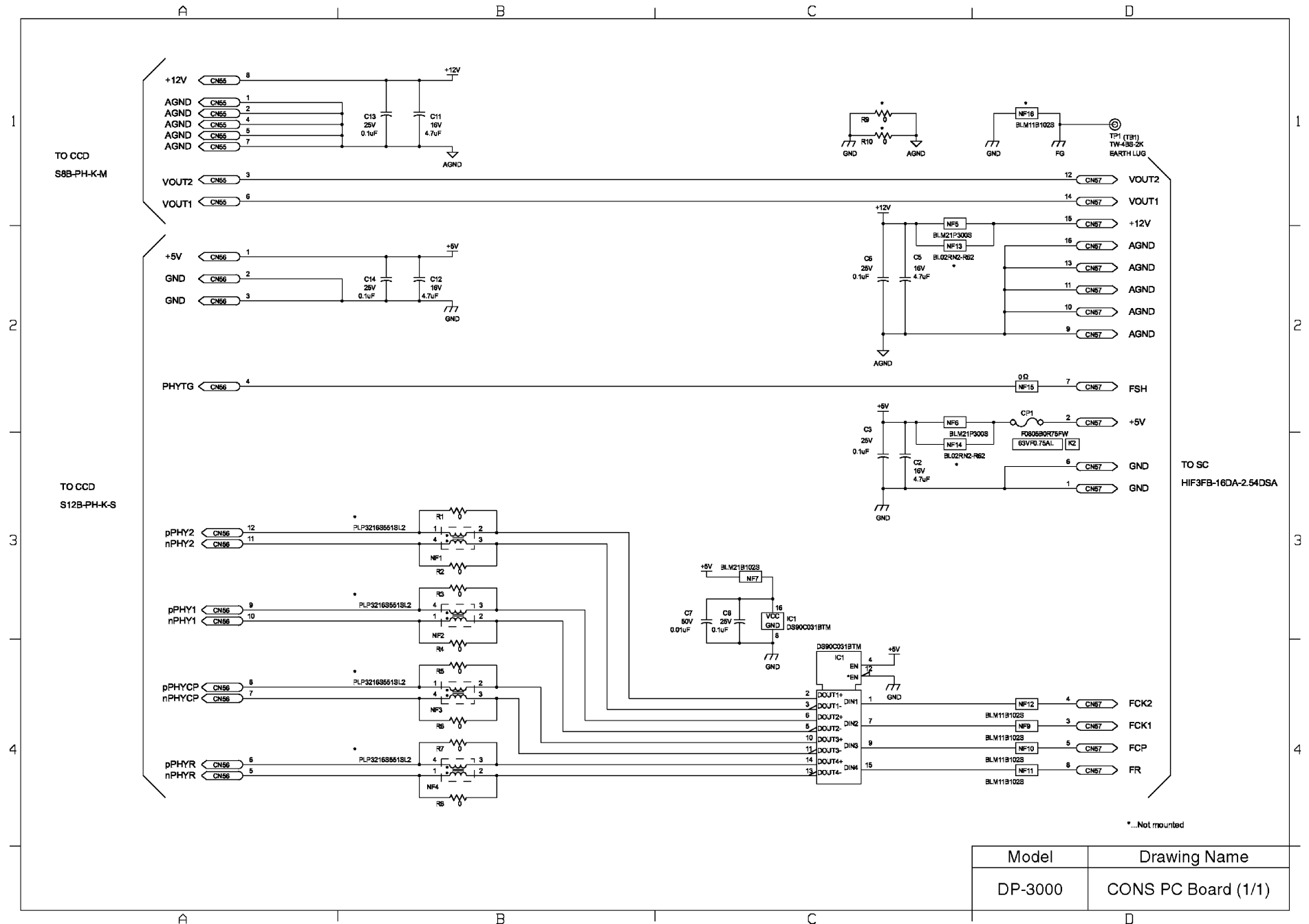


## 12.8. ADF PC Board



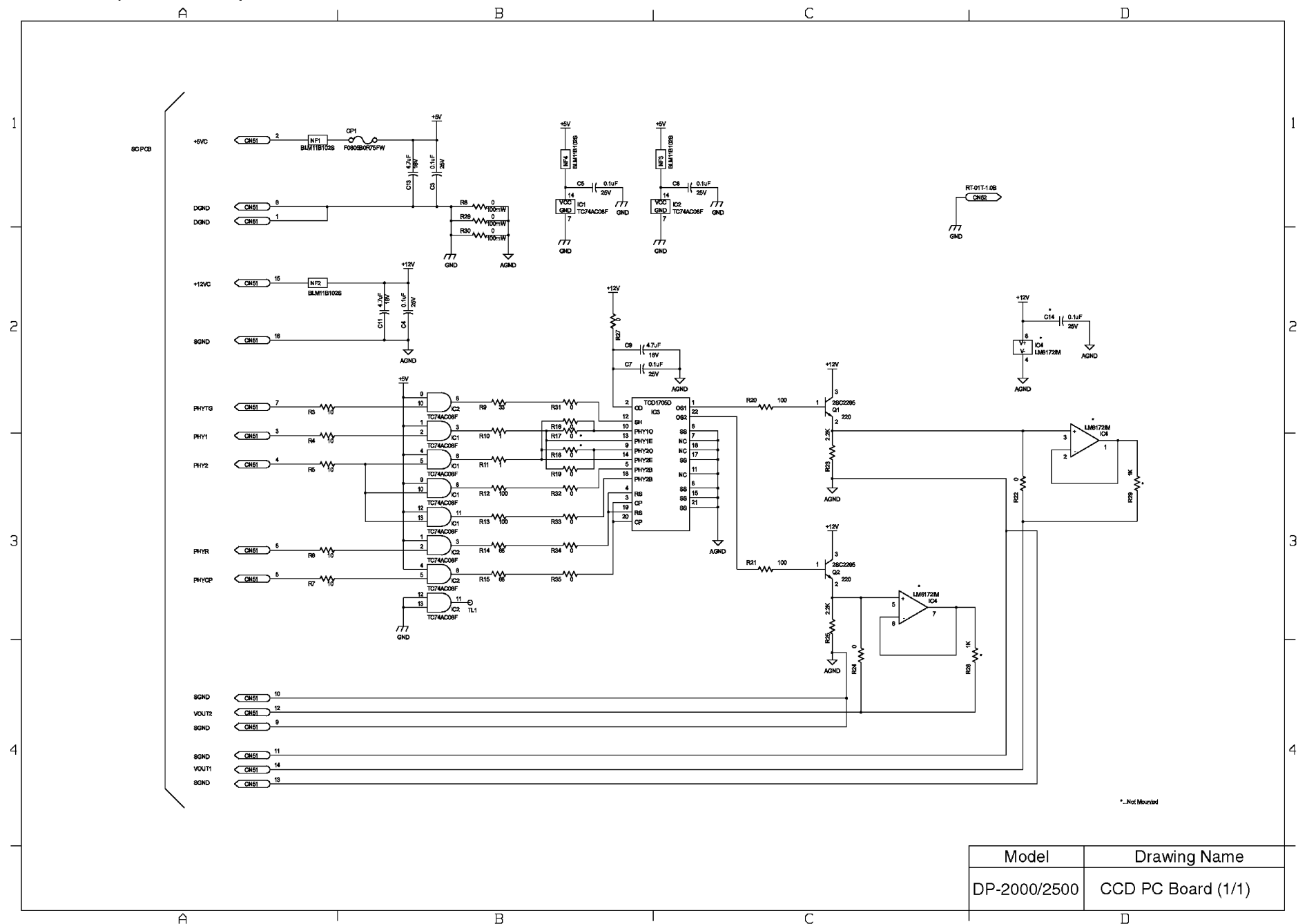


## 12.9. CONS PC Board

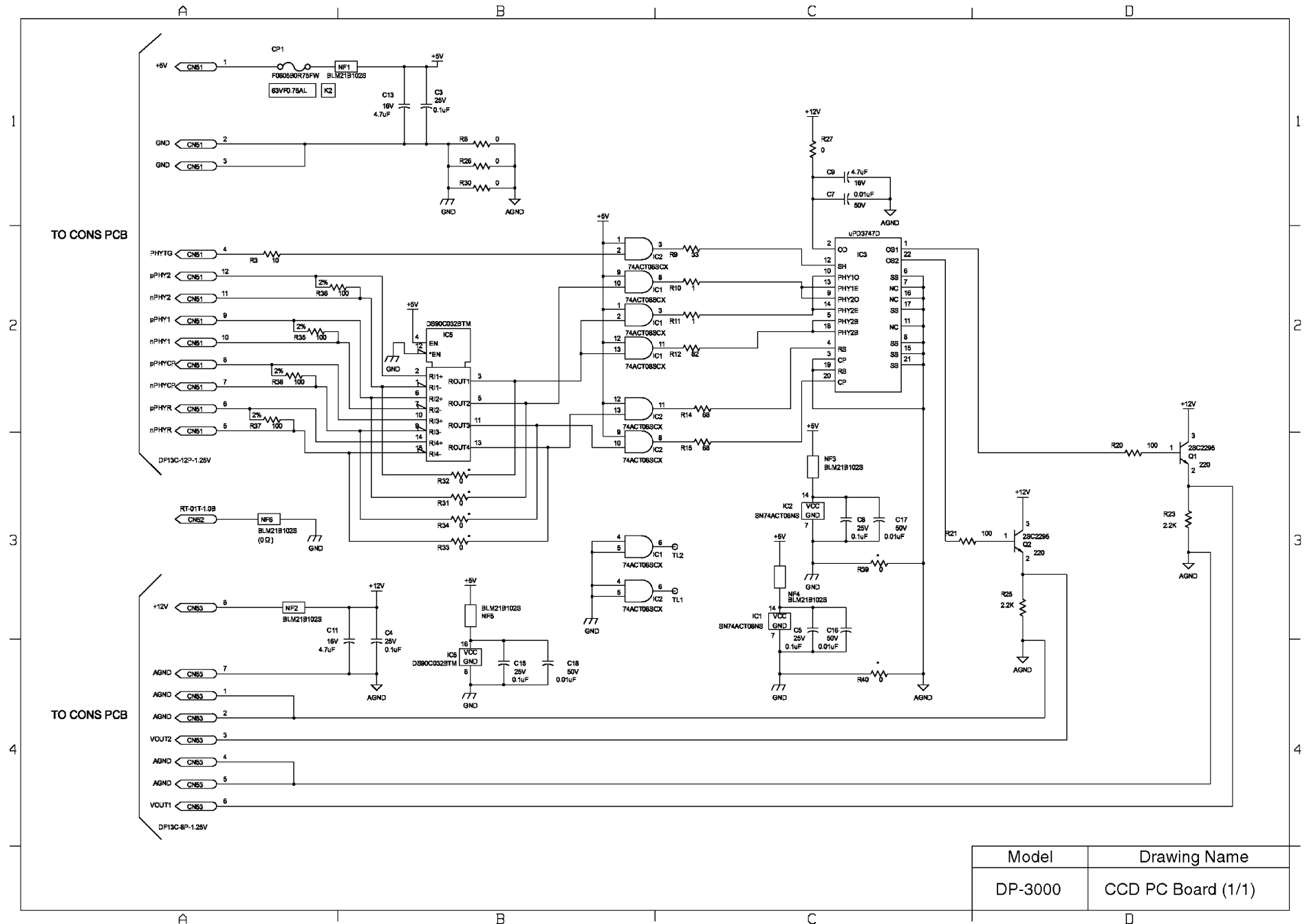


Model	Drawing Name
DP-3000	CONS PC Board (1/1)

### 12.10. CCD PC Board (DP-2000/2500)



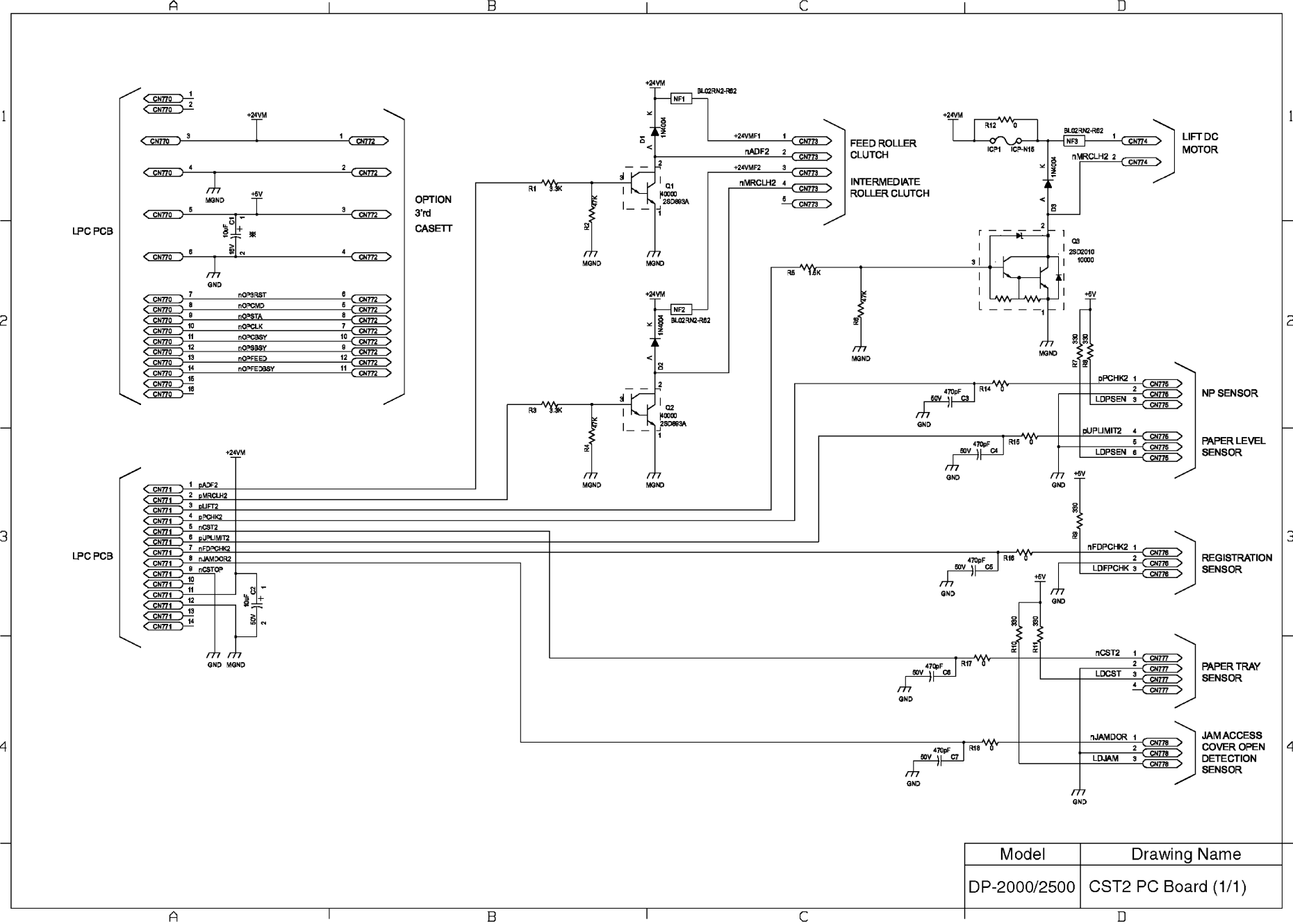
## 12.11. CCD PC Board (DP-3000)



Model	Drawing Name
DP-3000	CCD PC Board (1/1)

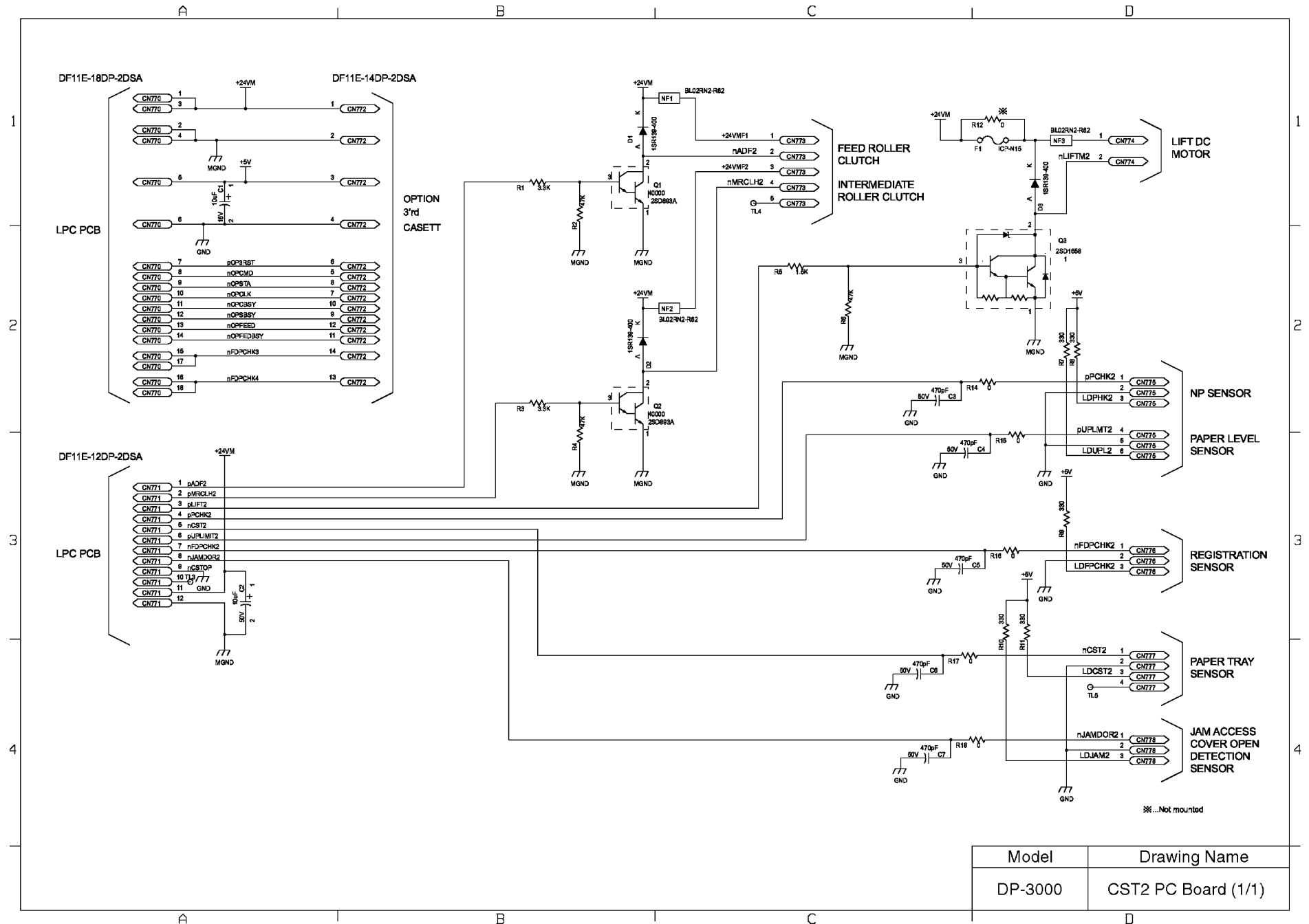


12.12. CST2 PC Board (DP-2000/2500)

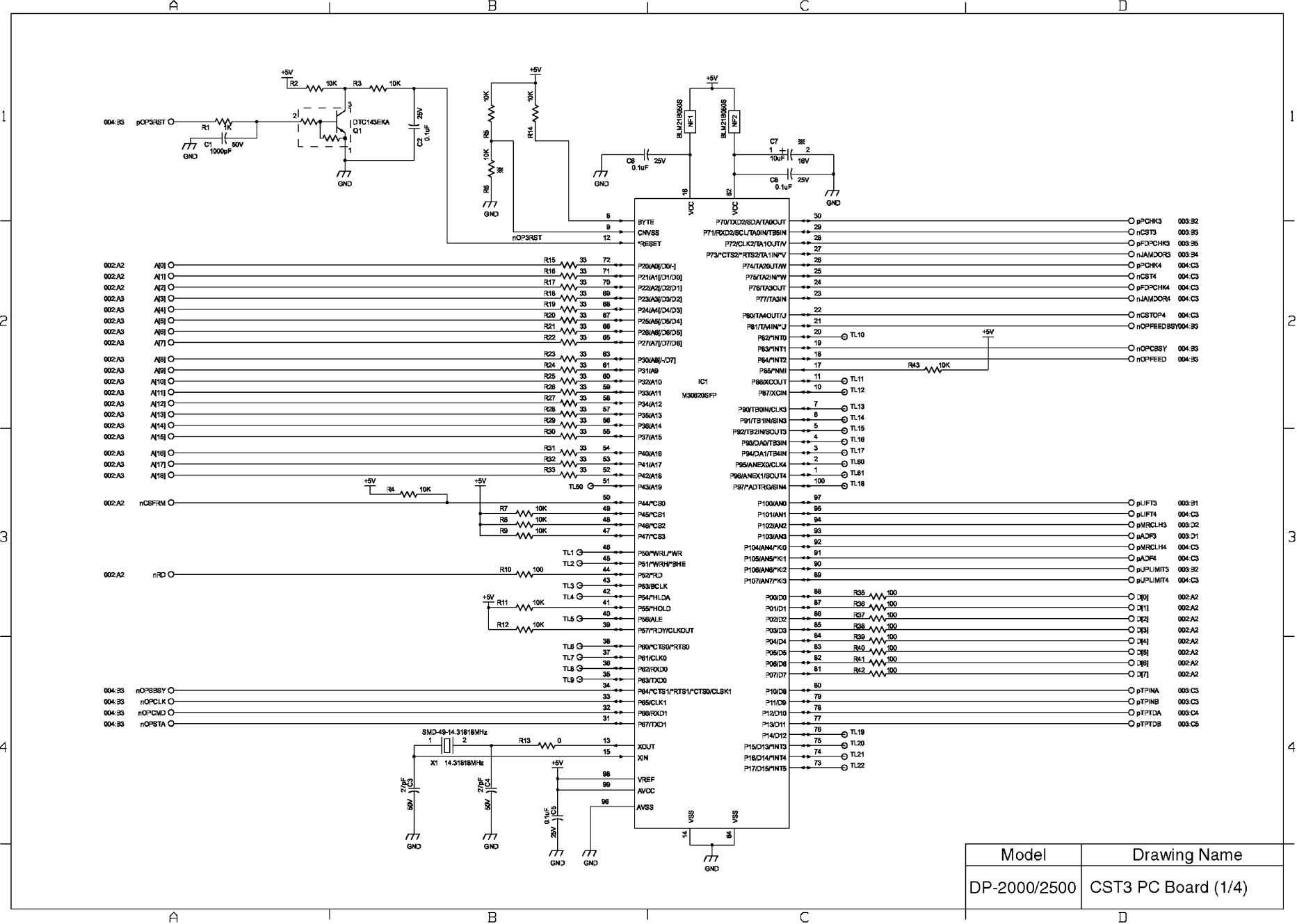


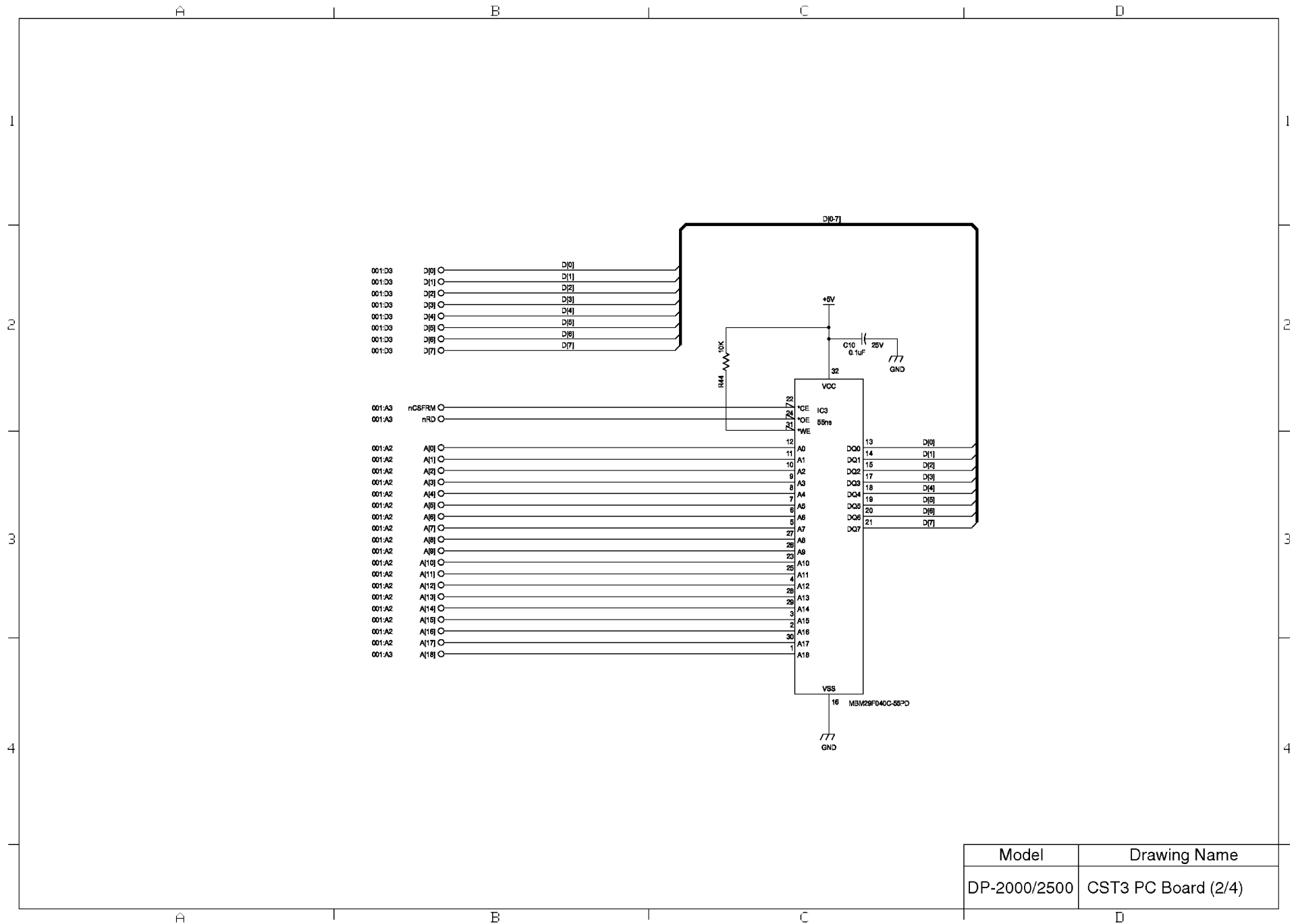
Model	Drawing Name
DP-2000/2500	CST2 PC Board (1/1)

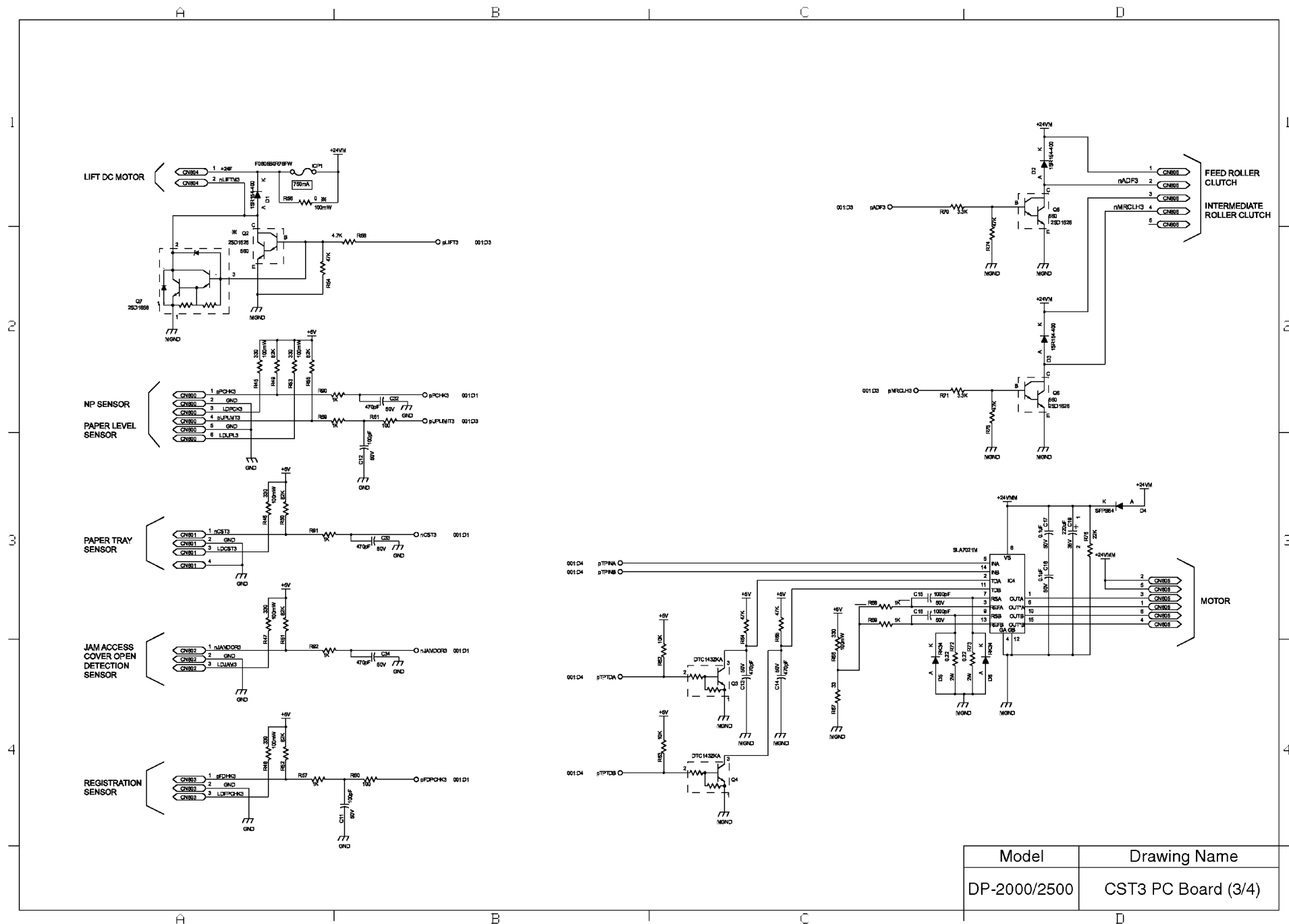
## 12.13. CST2 PC Board (DP-3000)

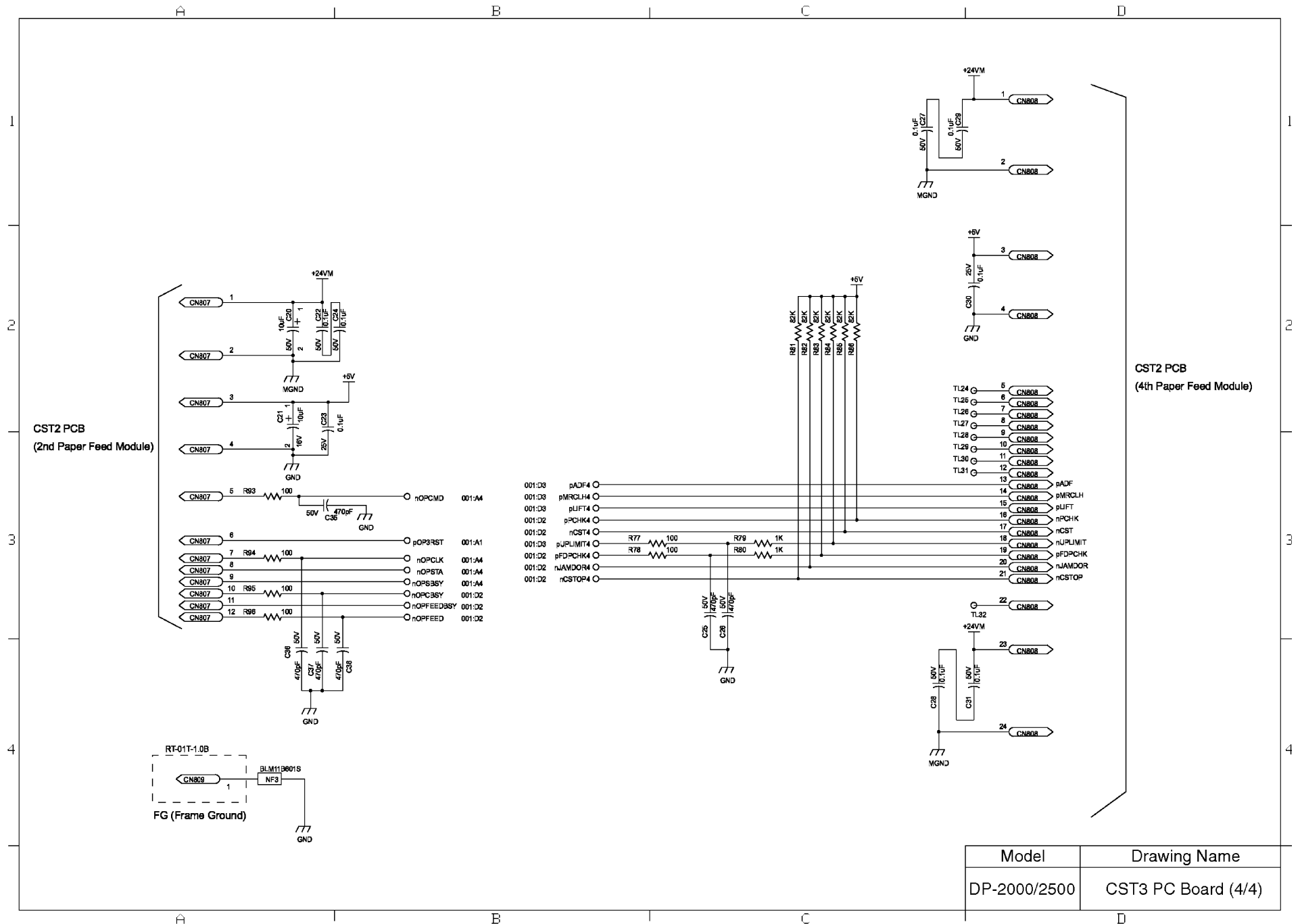


12.14. CST3 PC Board (DP-2000/2500)

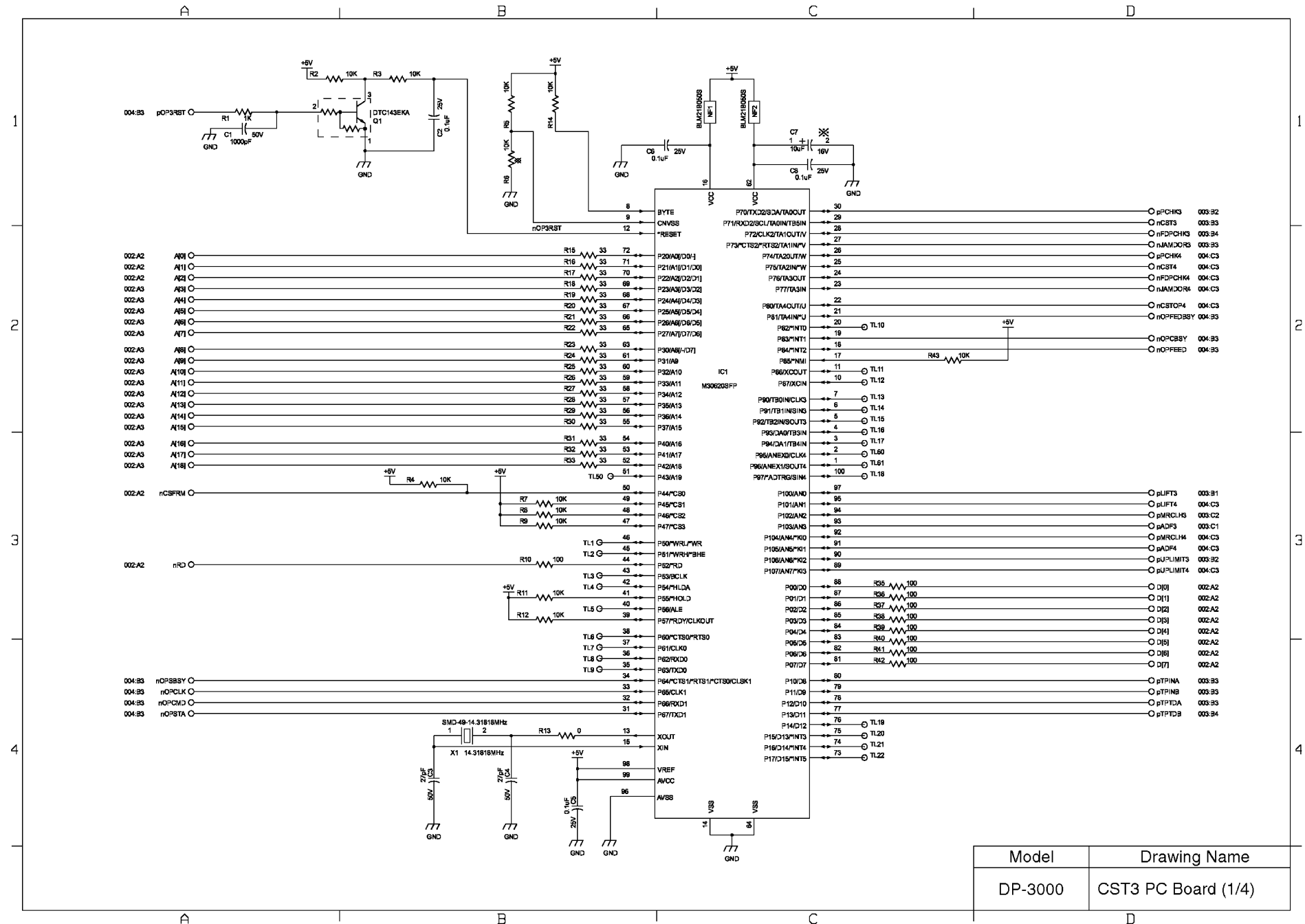


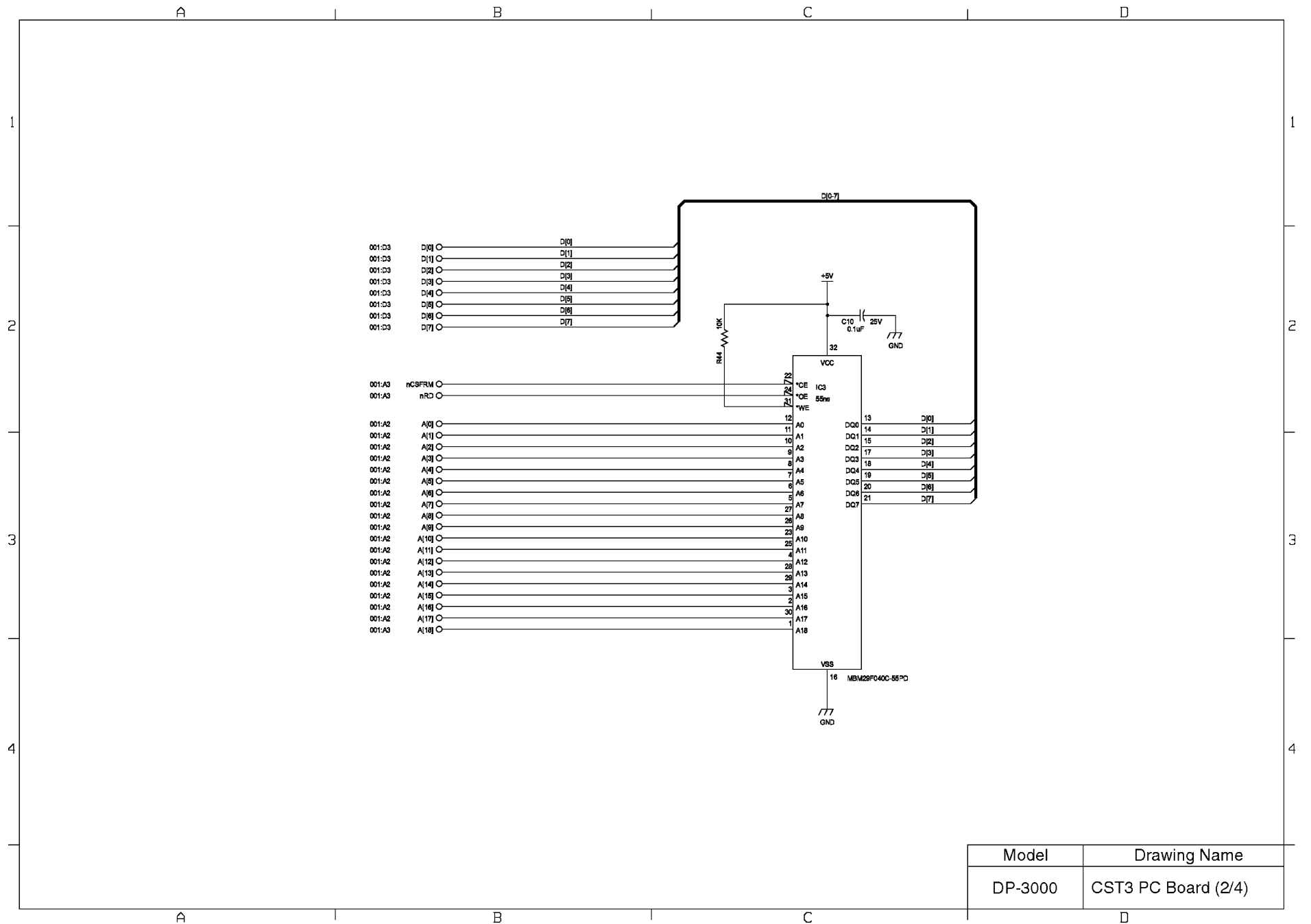






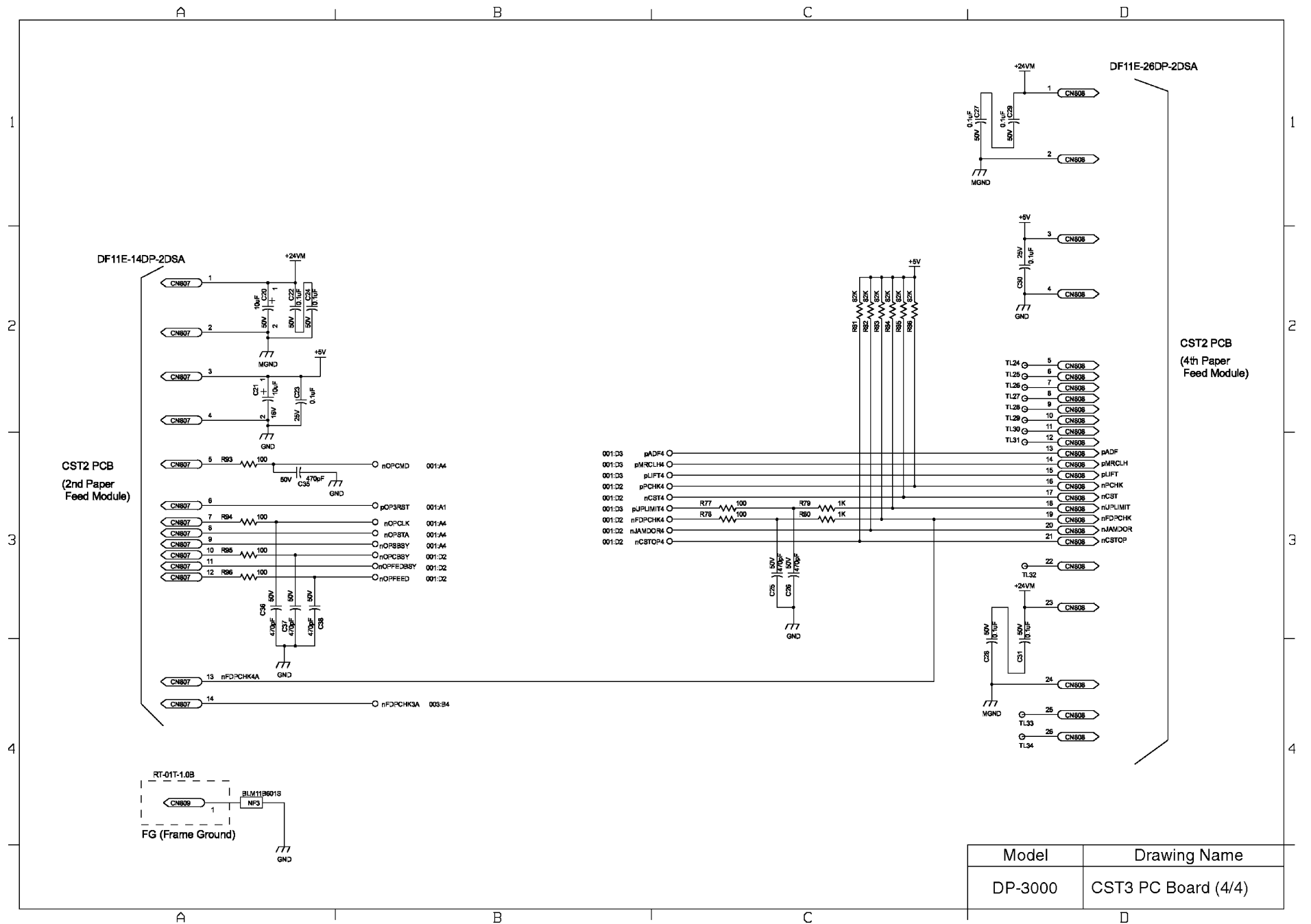
### 12.15. CST3 PC Board (DP-3000)





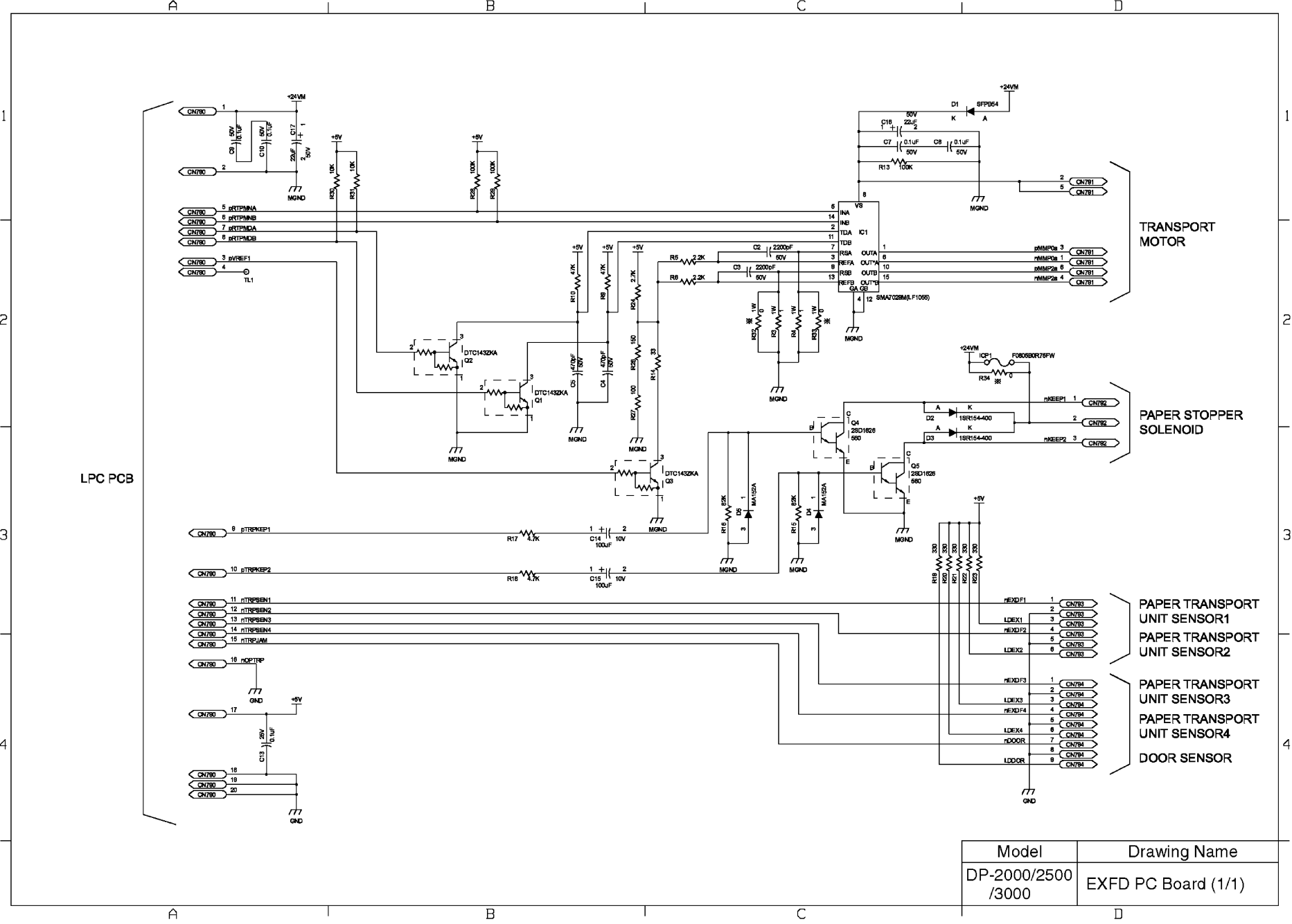




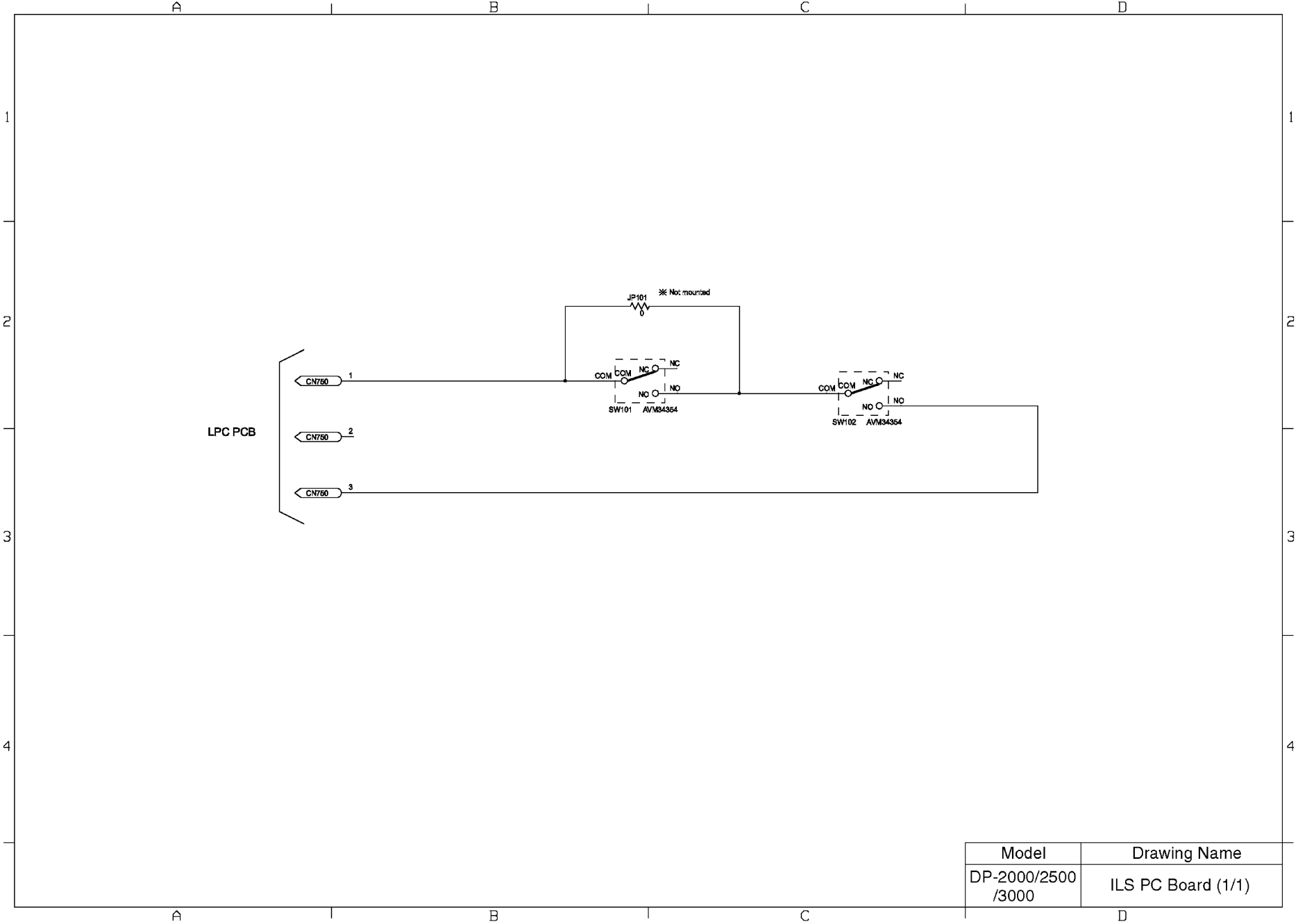


Model	Drawing Name
DP-3000	CST3 PC Board (4/4)

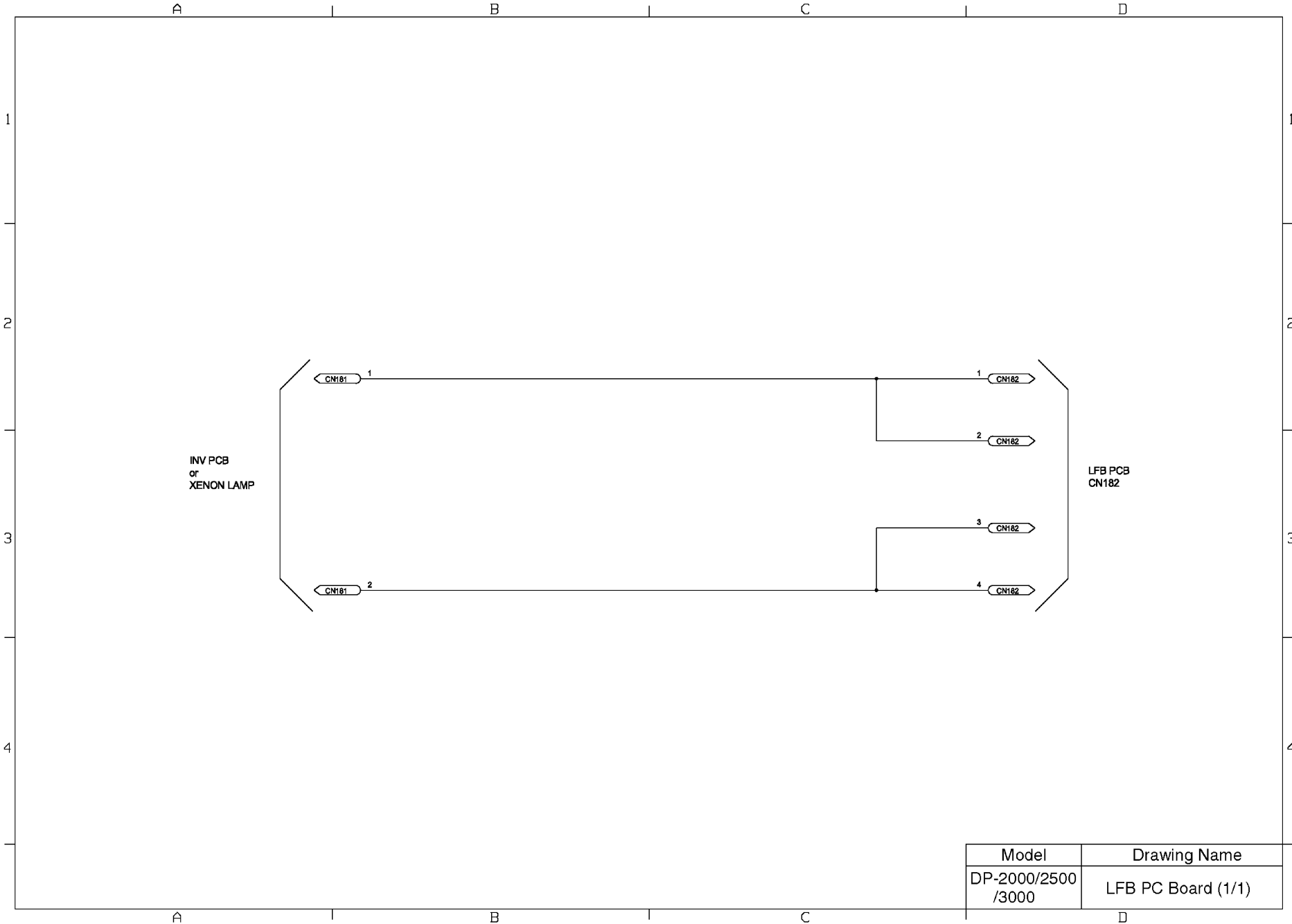
12.16. EXFB PC Board



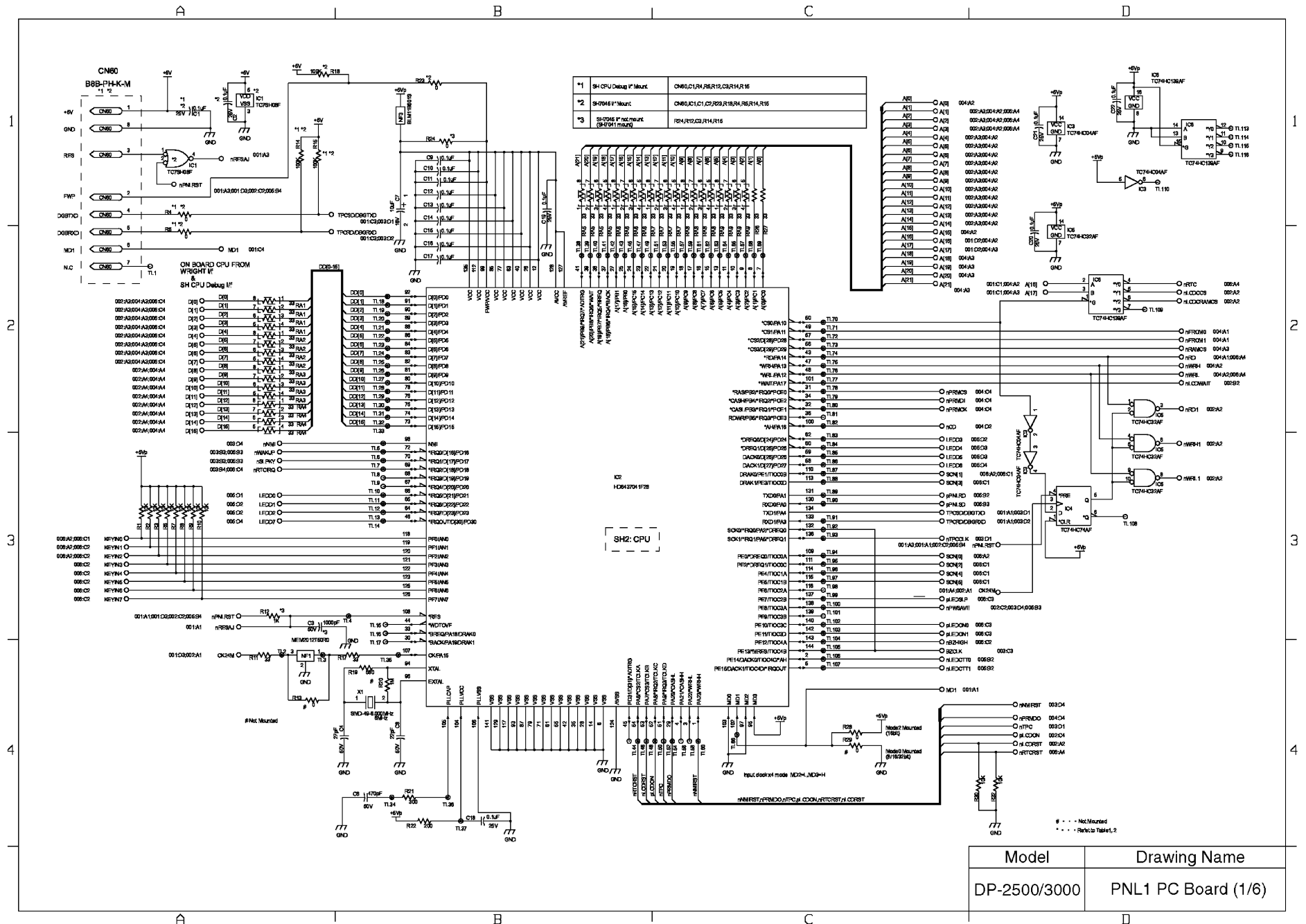
12.17. ILS PC Board

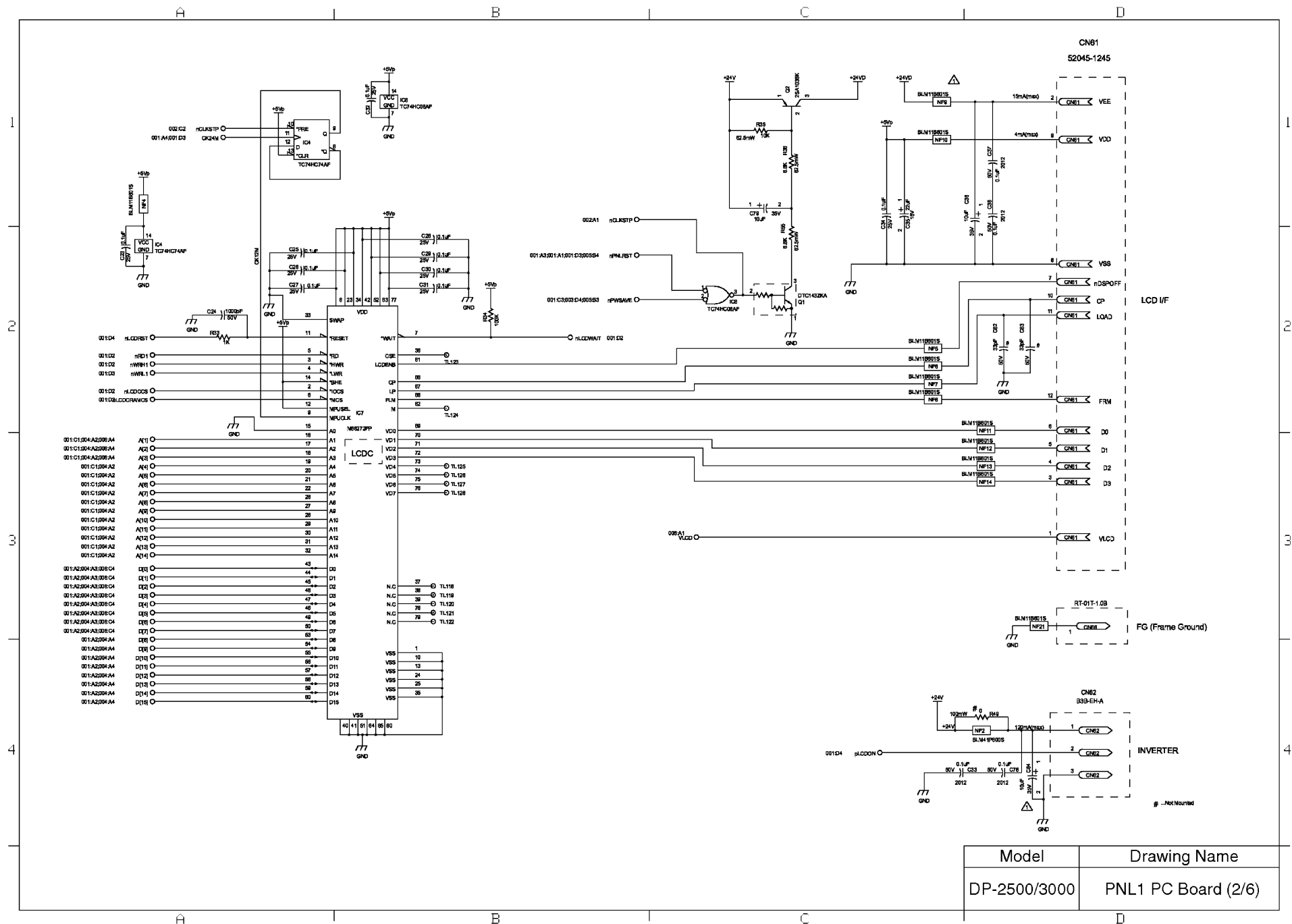


12.18. LFB PC Board



## 12.19. PNL1 PC Board

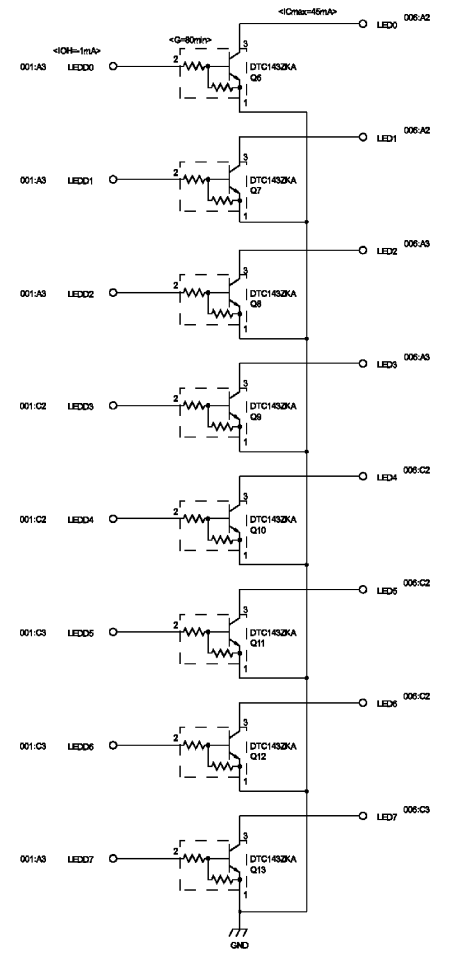
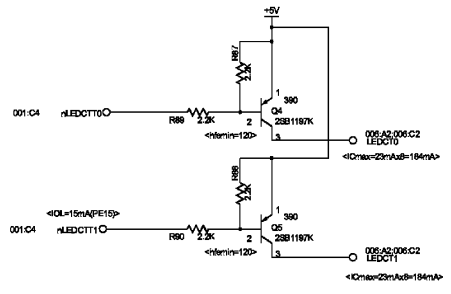
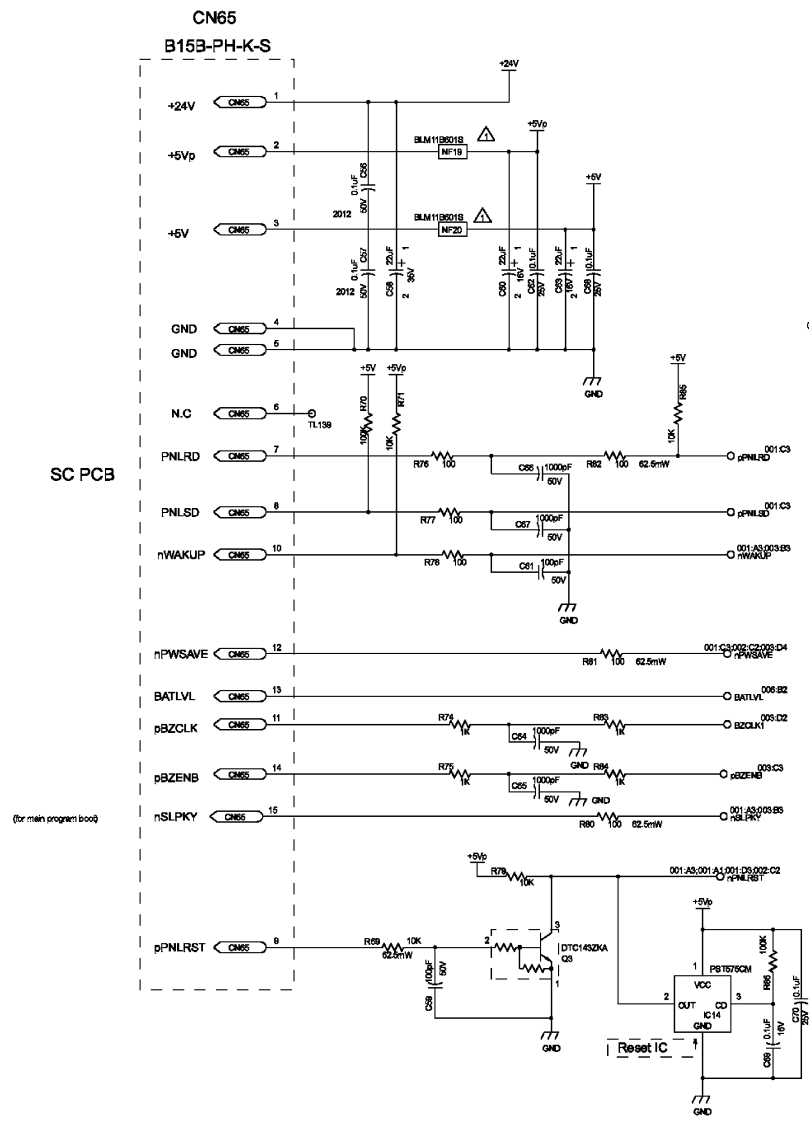




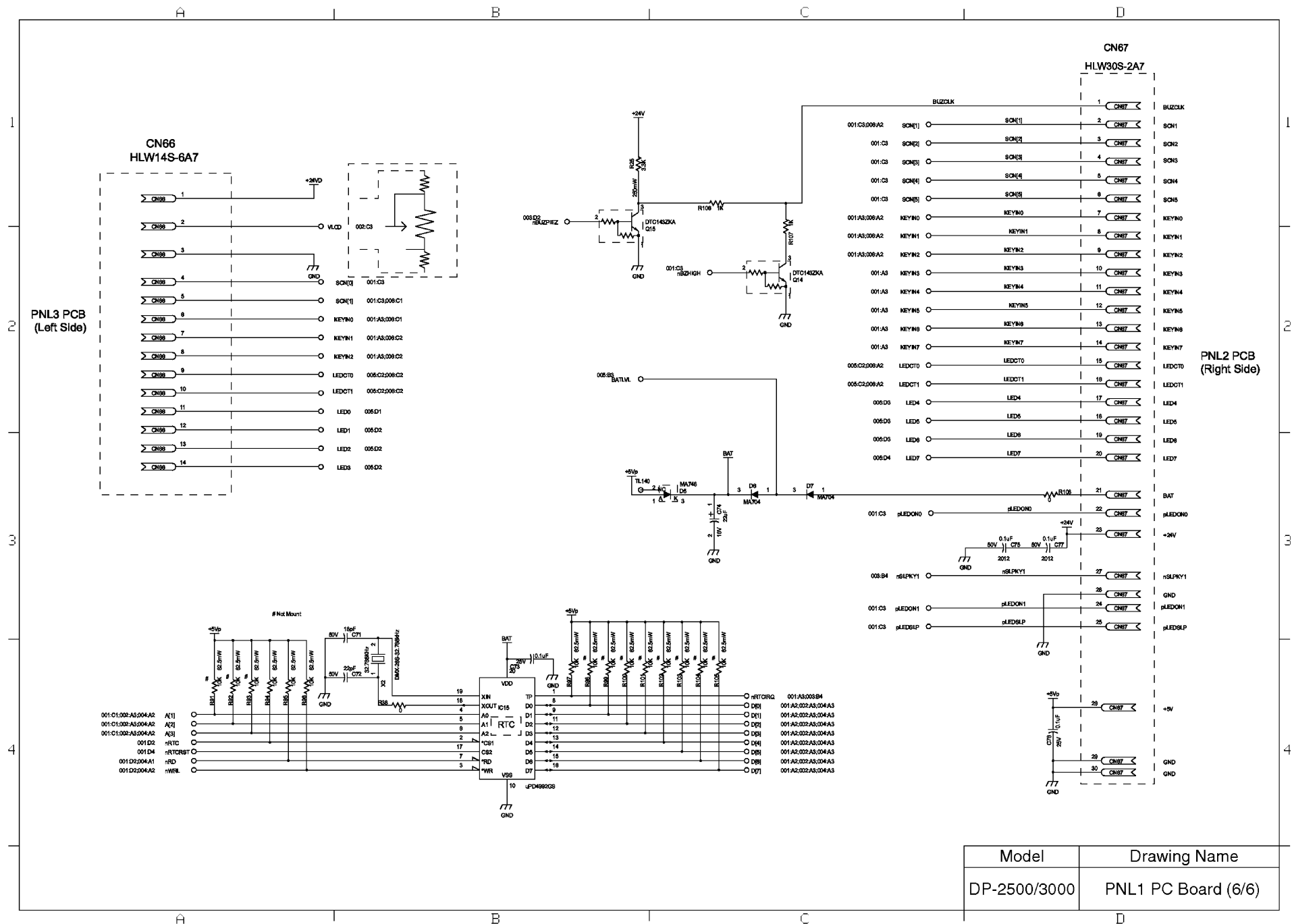






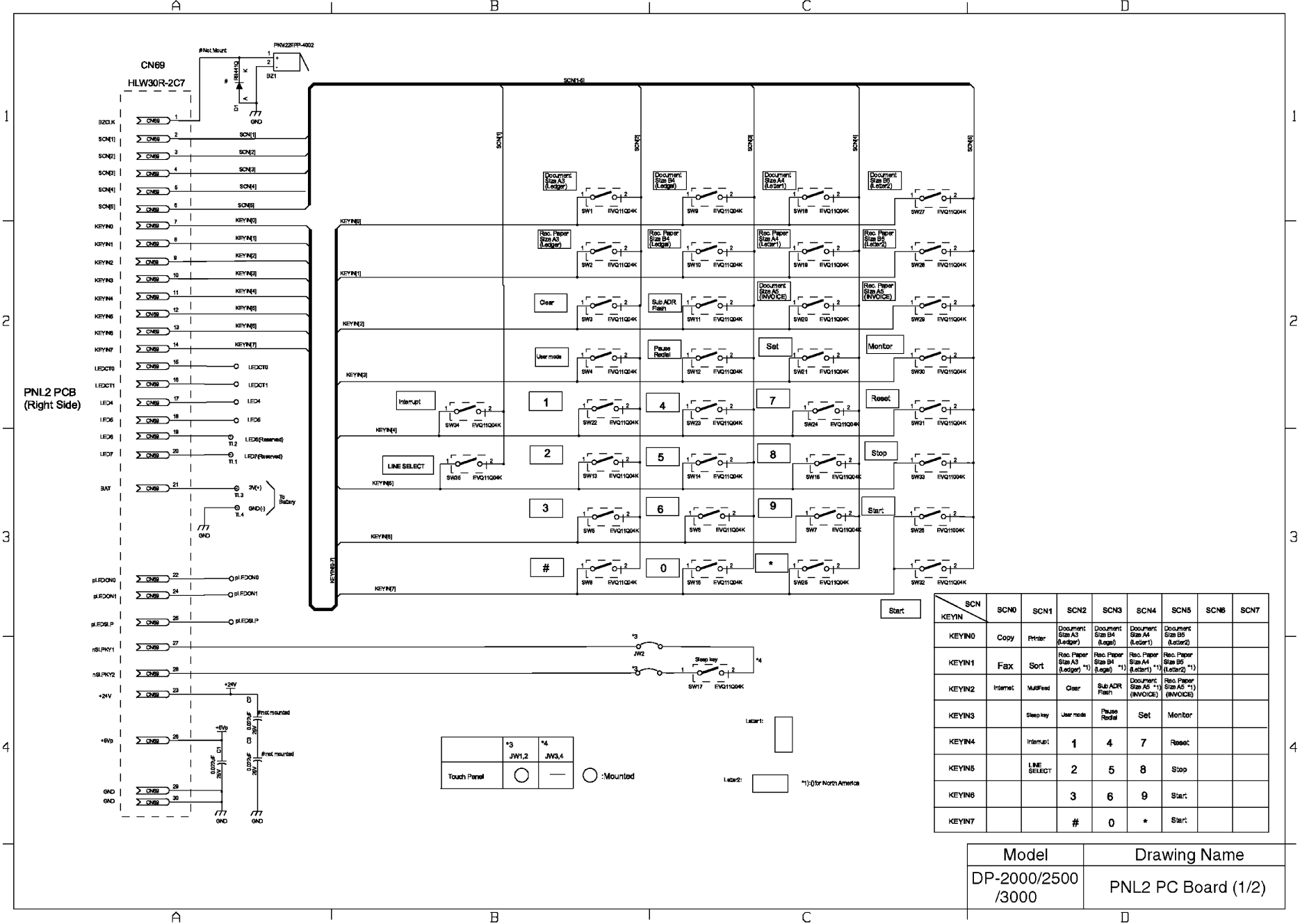


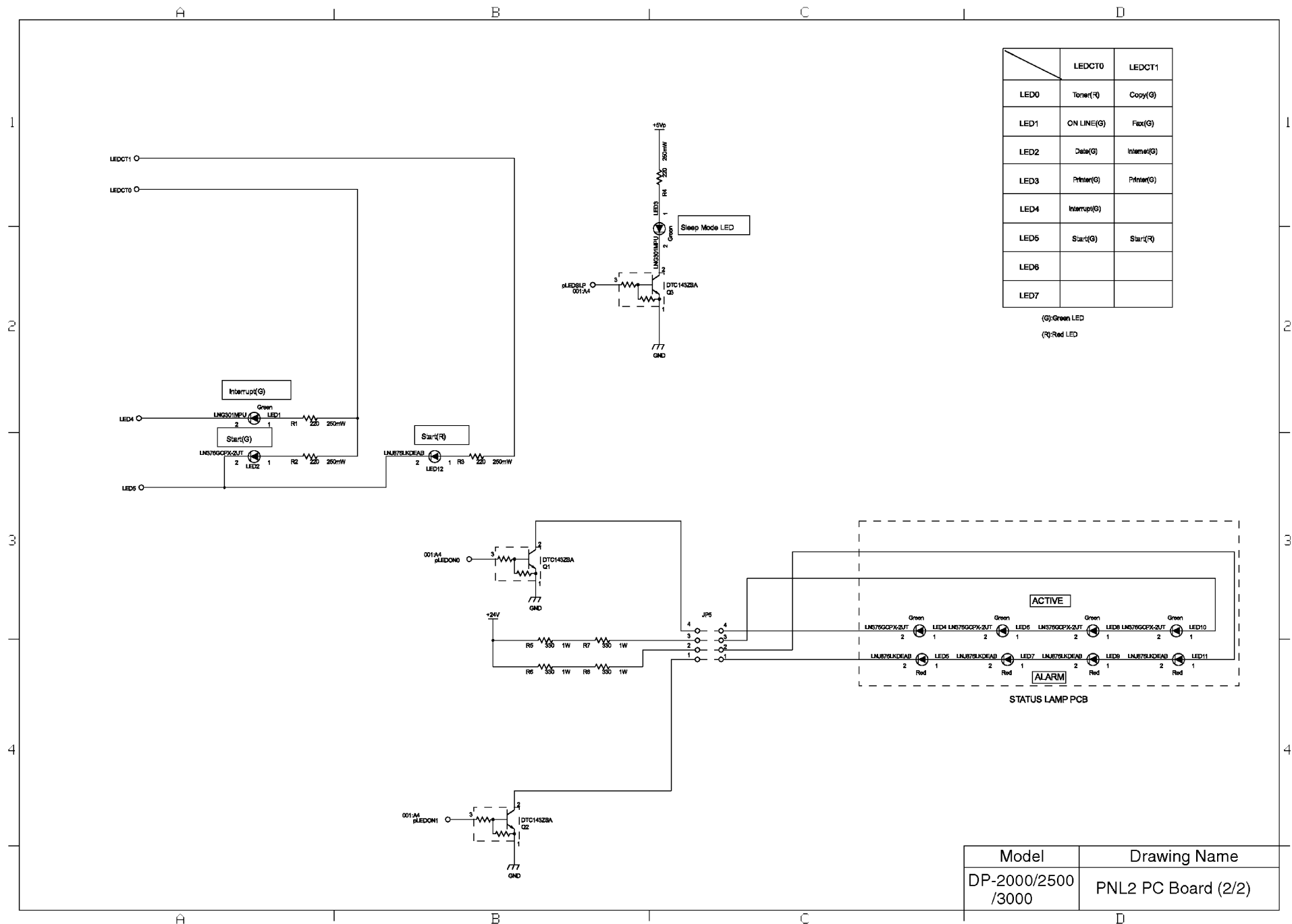
Model	Drawing Name
DP-2500/3000	PNL1 PC Board (5/6)



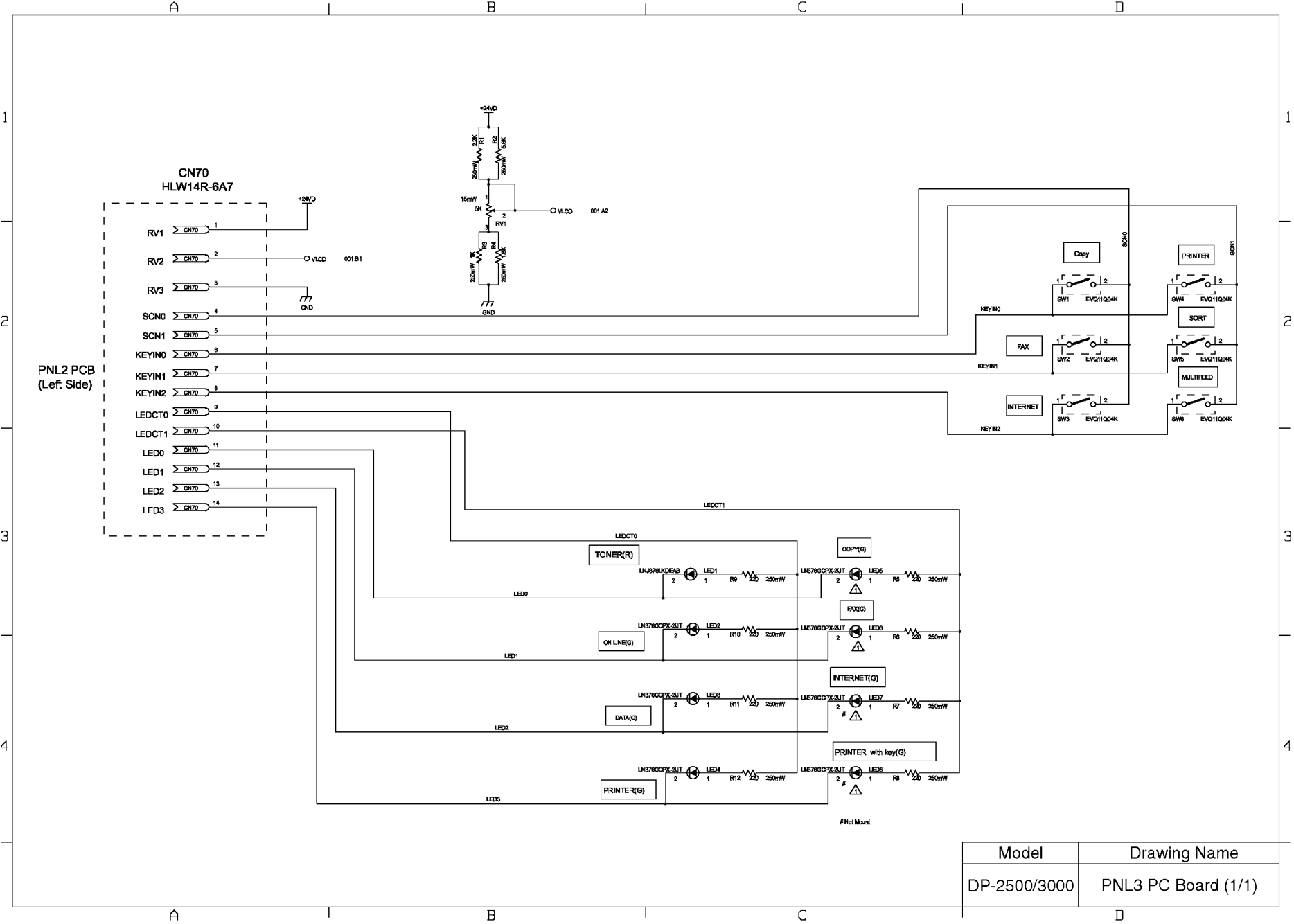
Model	Drawing Name
DP-2500/3000	PNL1 PC Board (6/6)

12.20. PNL2 PC Board

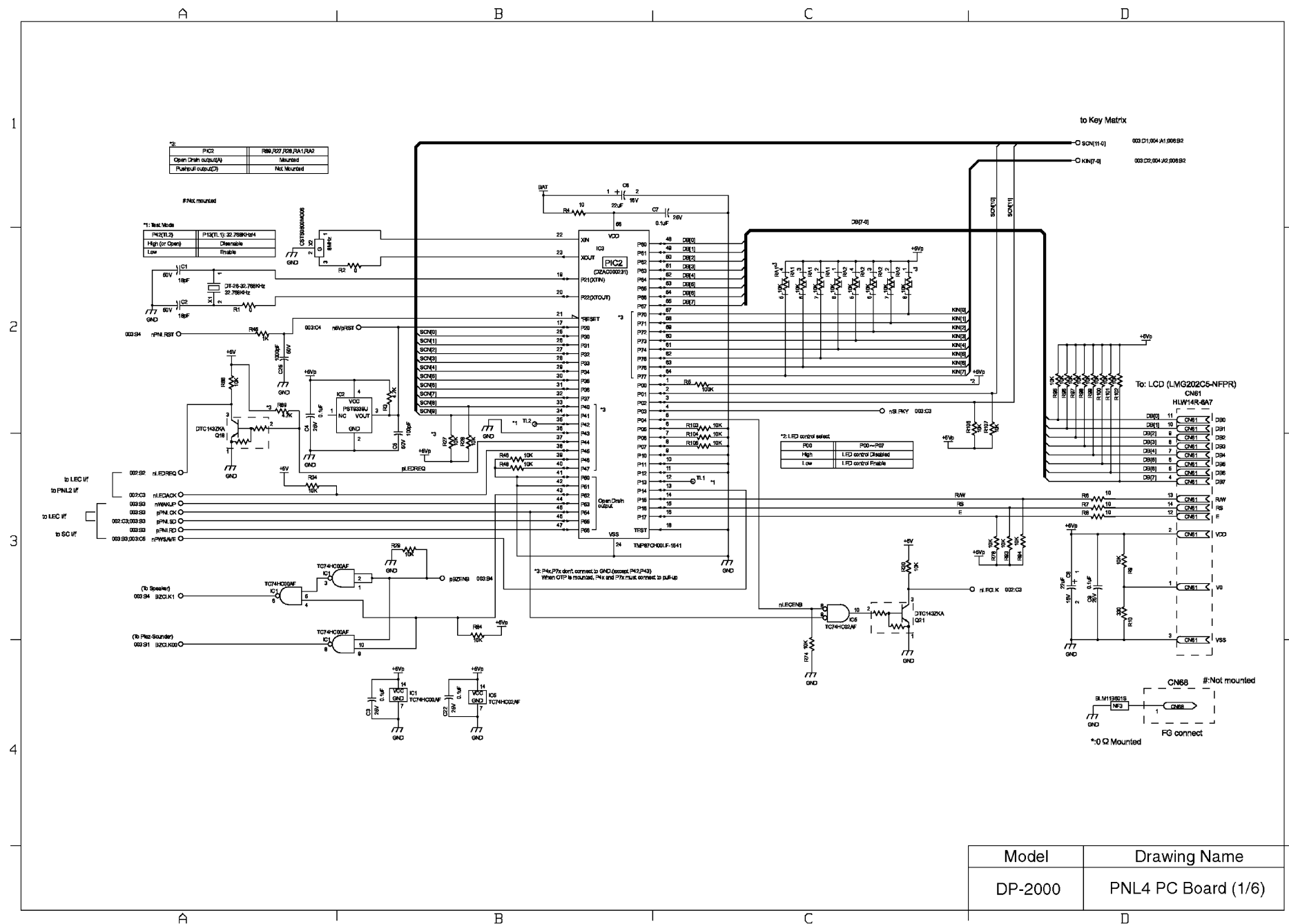


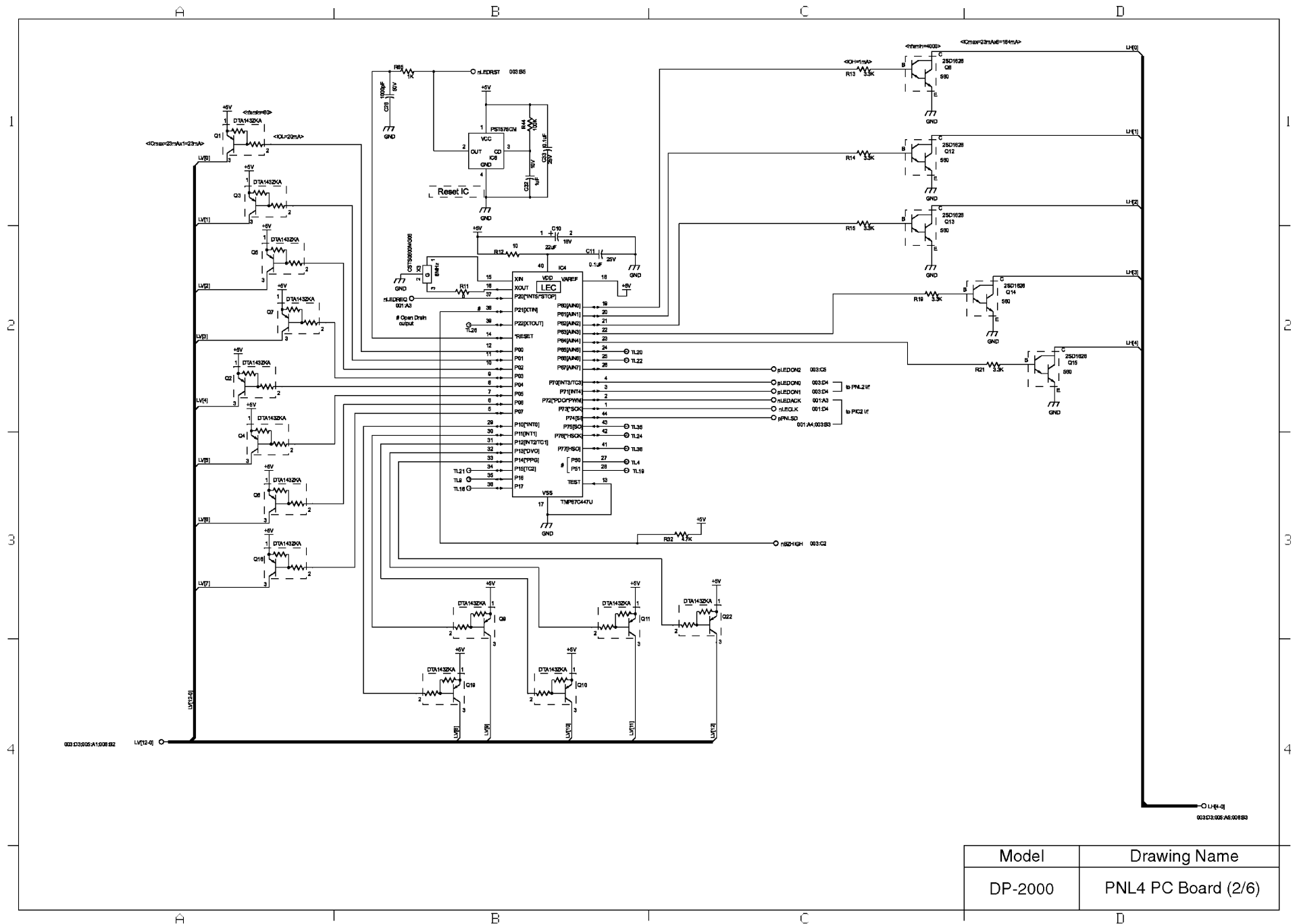


12.21. PNL3 PC Board



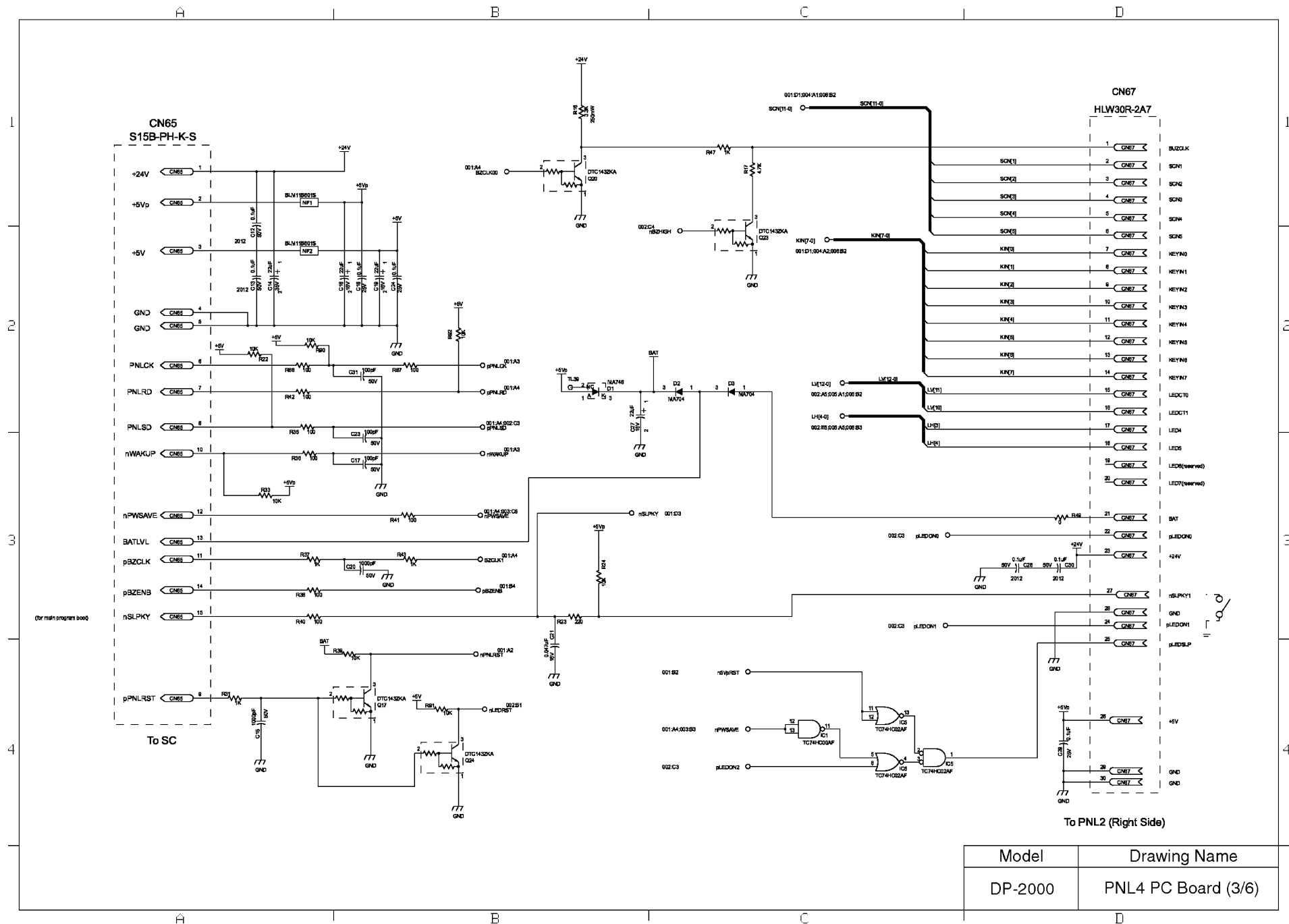
## 12.22. PNL 4 PC Board

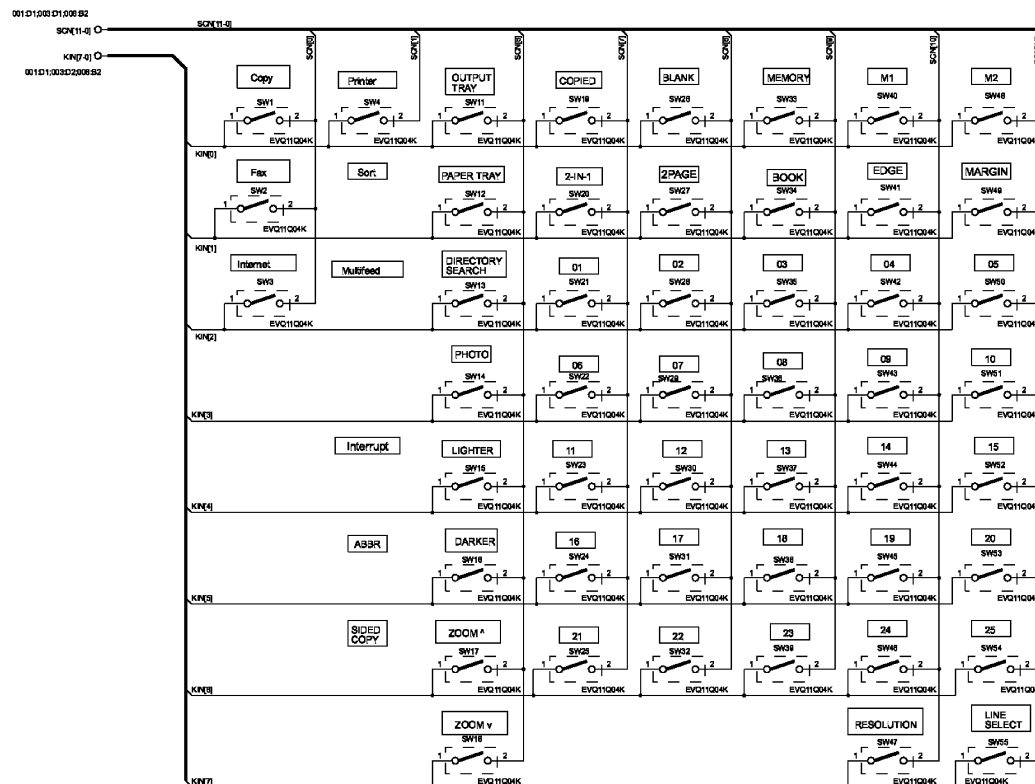




Model	Drawing Name
DP-2000	PNL4 PC Board (2/6)



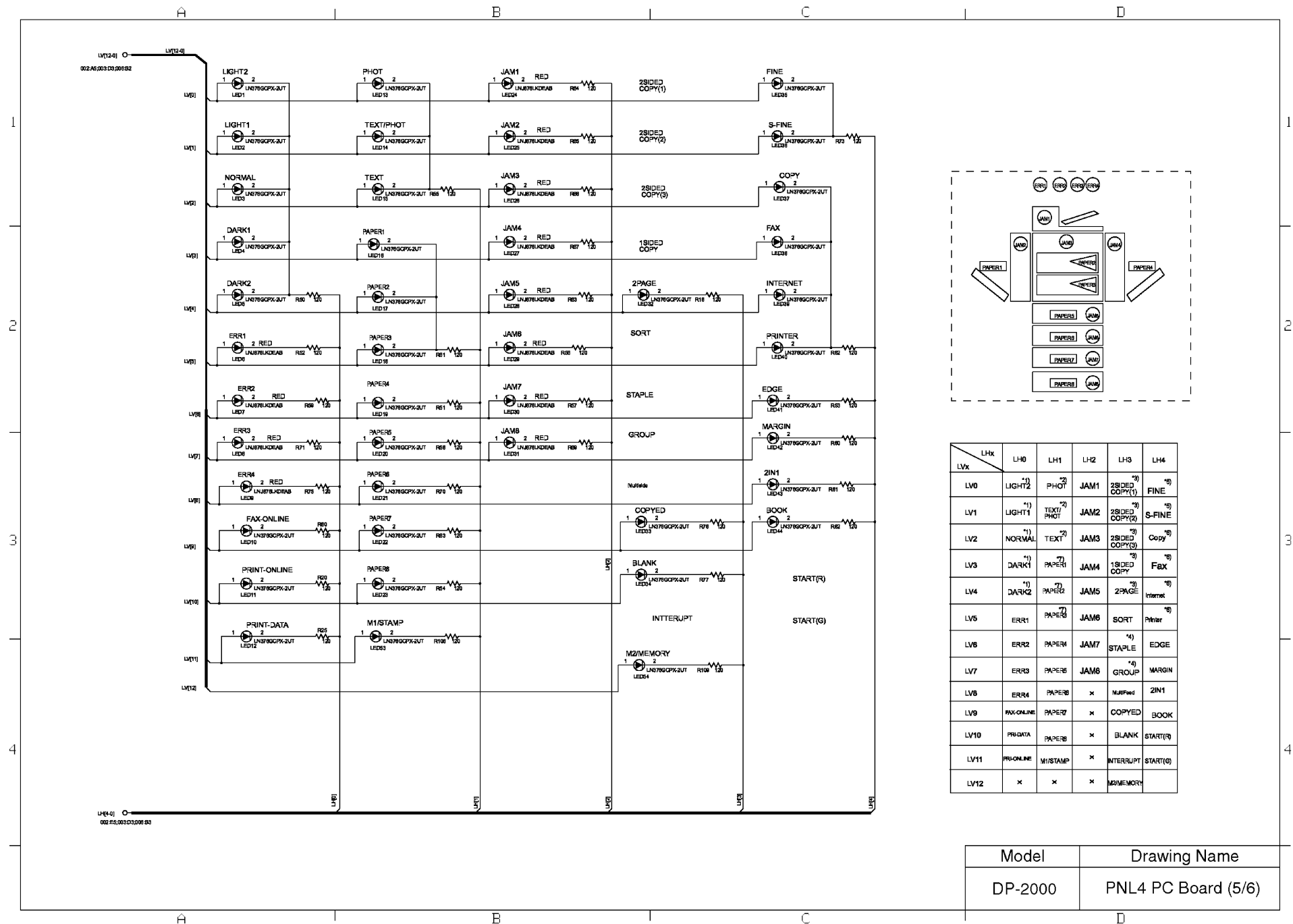




KEYIN	SCN0	SCN1	SCN2	SCN3	SCN4	SCN5	SCN6	SCN7	SCN8	SCN9	SCN10	SCN11
KEYIN0	Copy	Printer	Document Size A3 (Letter)	Document Size B4 (Legal)	Document Size A4 (Letter)	Document Size B5 (Letter2)	OUTPUT TRAY	COPIED	BLANK	MEMORY	M1	M2
KEYIN1	Fax	Sort	Rec. Paper Size A3 (Letter) *1)	Rec. Paper Size B4 (Legal) *1)	Rec. Paper Size A4 (Letter) *1)	Rec. Paper Size B5 (Letter2)	CASSETTE	2IN1	2PAGE	BOOK	EDGE	MARGIN
KEYIN2	Interrupt	Multifield	Clear	Sub ADR. Field	Document Size A3 *1)	Rec. Paper Size A3 (INVOICE)	DIRECTORY SEARCH	OT01	OT02	OT03	OT04	OT05
KEYIN3			User mode	Pause/Redel.	Set	Monitor	PHOT	OT06	OT07	OT08	OT09	OT10
KEYIN4		Interrupt	1	4	7	Reset	LIGHTER	OT11	OT12	OT13	OT14	OT15
KEYIN5		ABBR	2	5	8	Stop	DARKER	OT16	OT17	OT18	OT19	OT20
KEYIN6		SIDED COPY	3	6	9	Start	ZOOM^	OT21	OT22	OT23	OT24	OT25
KEYIN7			#	0	*	Start	ZOOMV				RESOLUTION	LINE SELECT

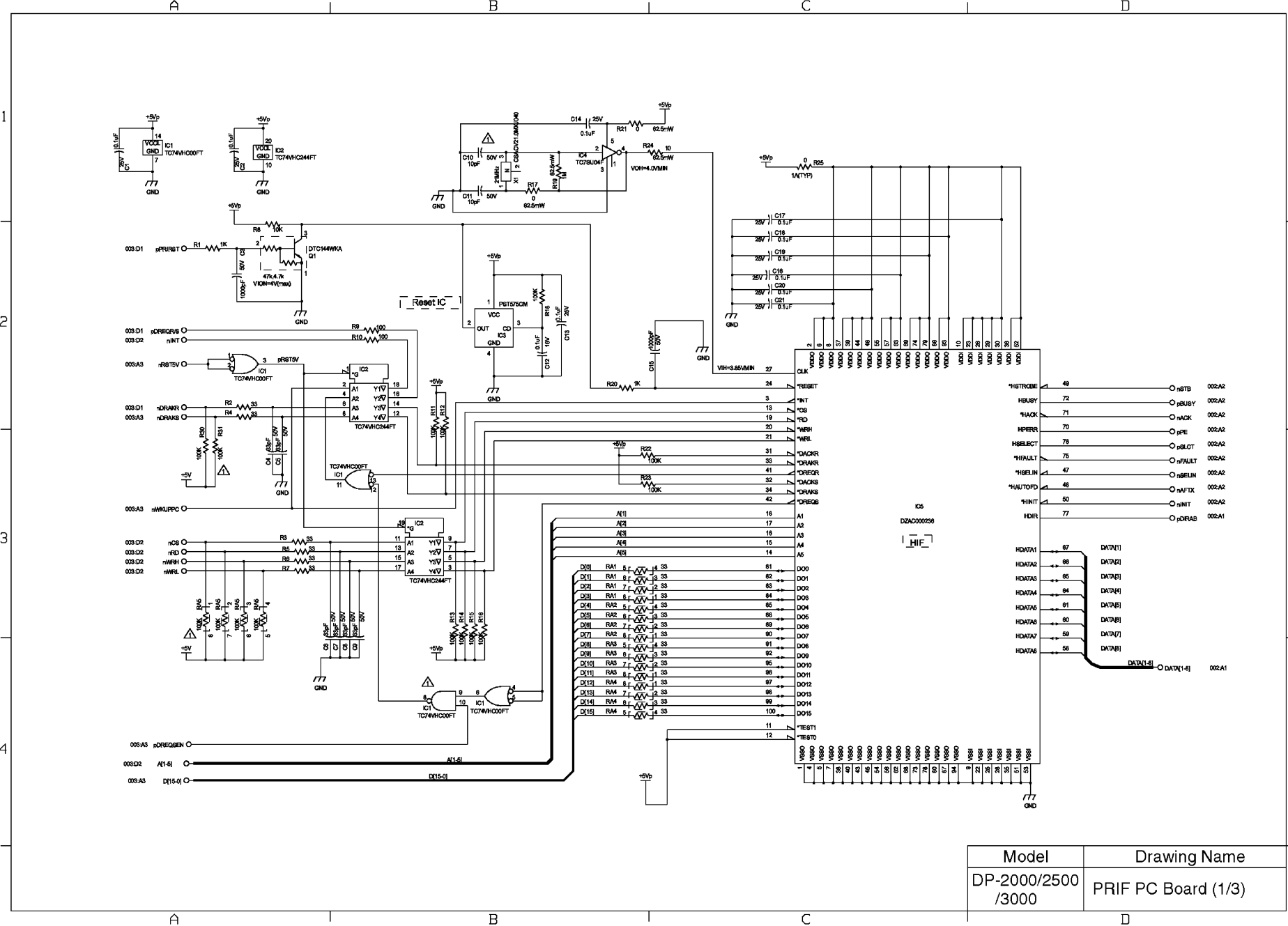
\*1): For USA

Model	Drawing Name
DP-2000	PNL4 PC Board (4/6)

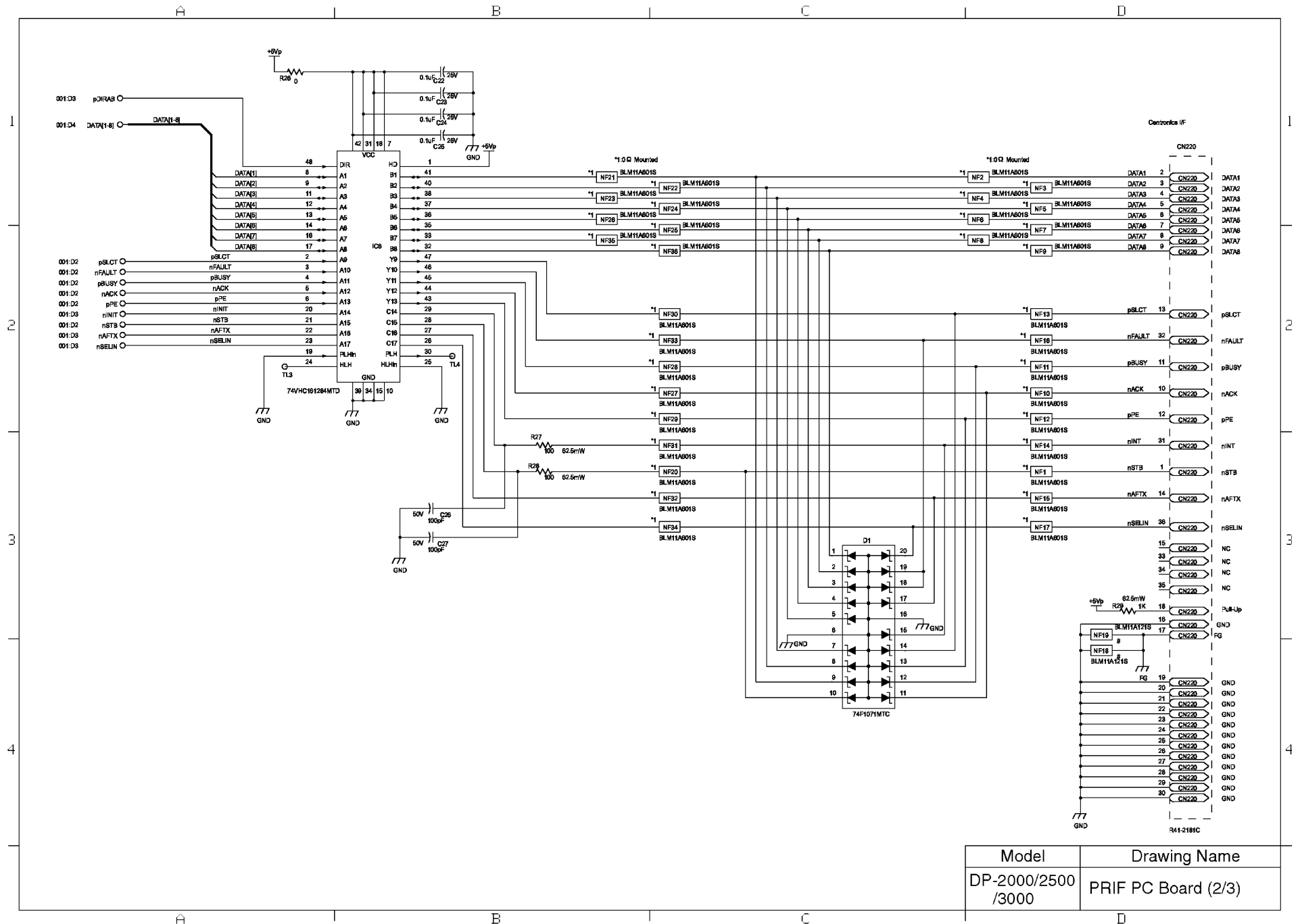


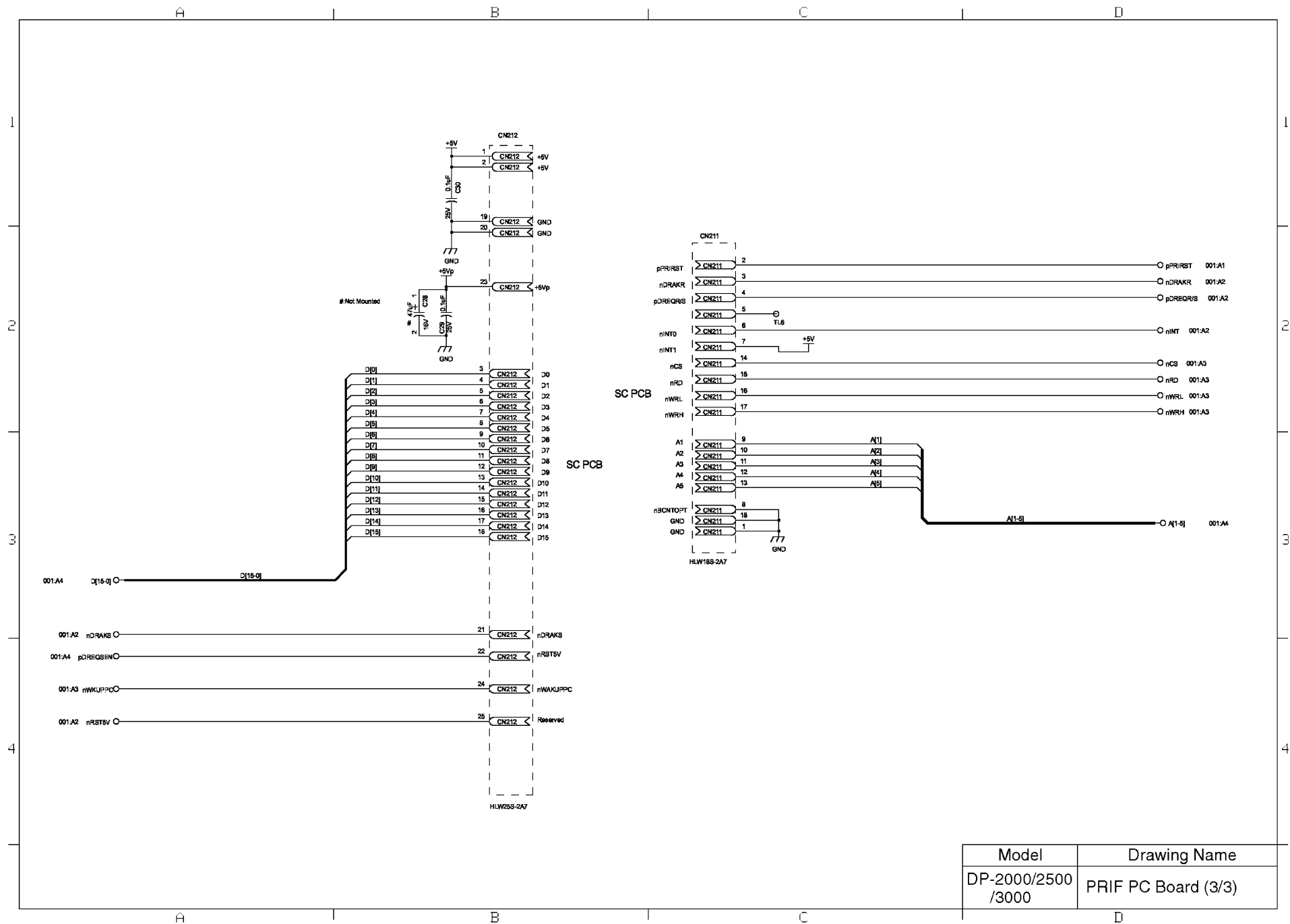


12.23. PRIF PC Board

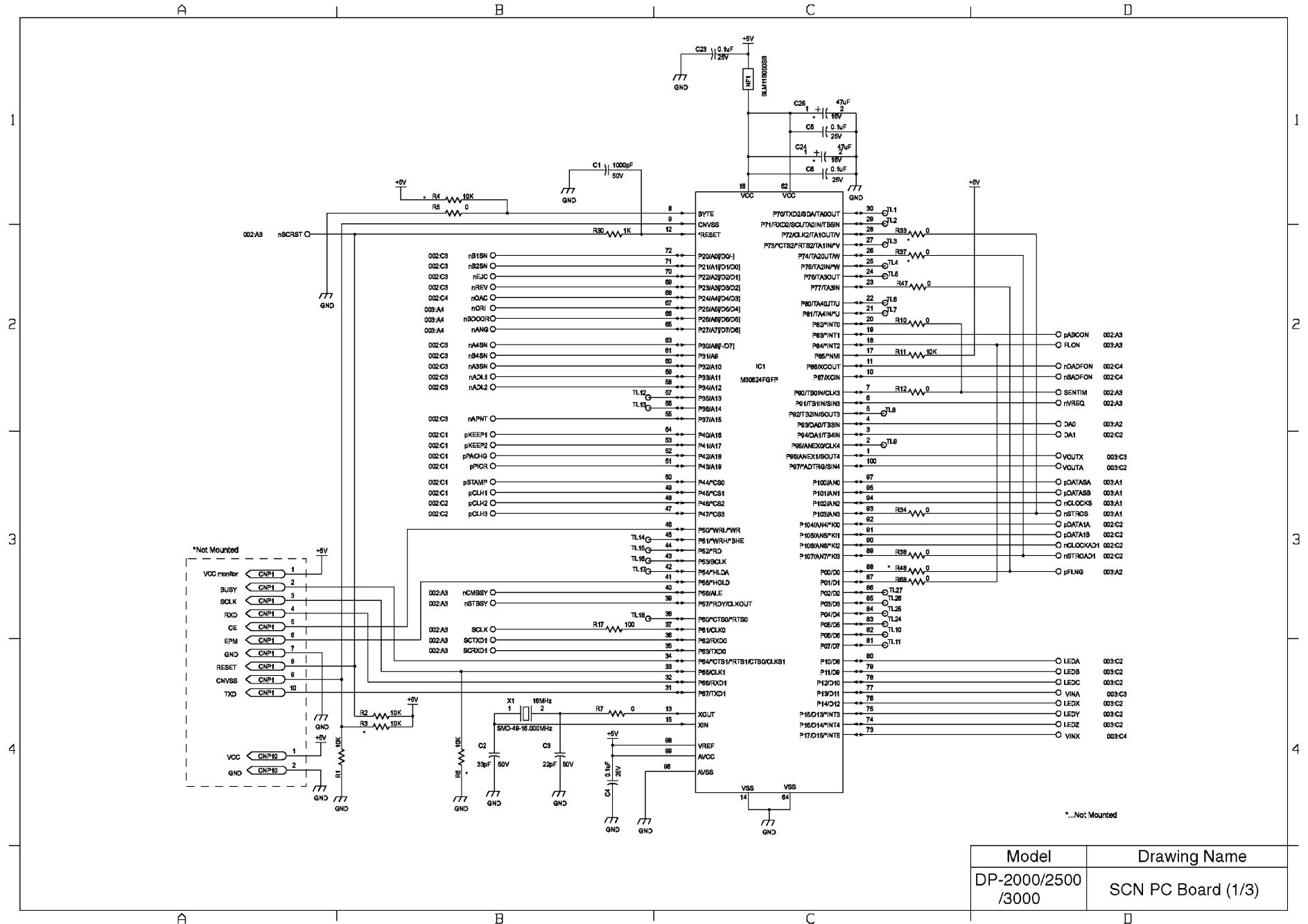


Model	Drawing Name
DP-2000/2500 /3000	PRIF PC Board (1/3)

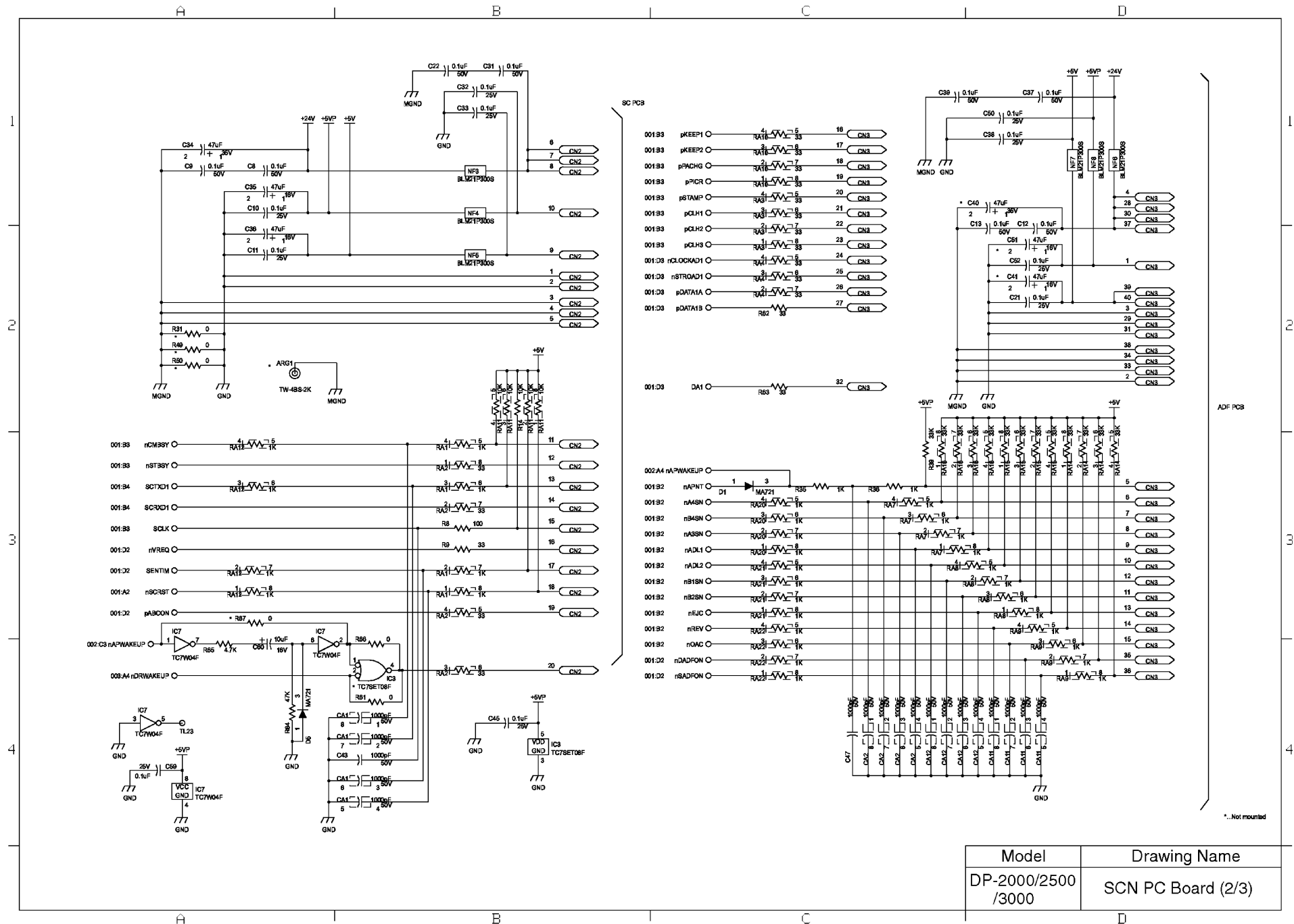


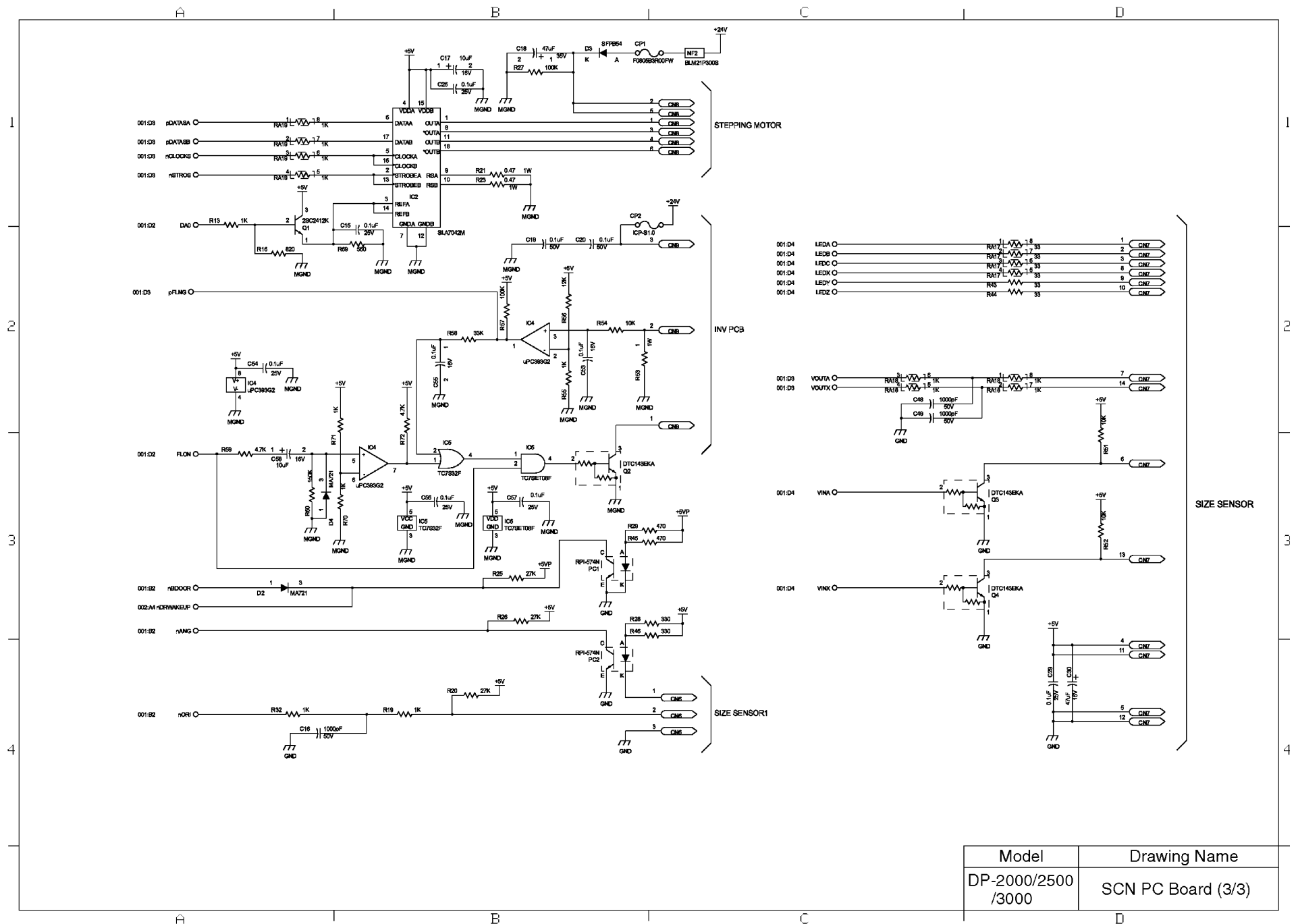


## 12.24. SCN PC Board

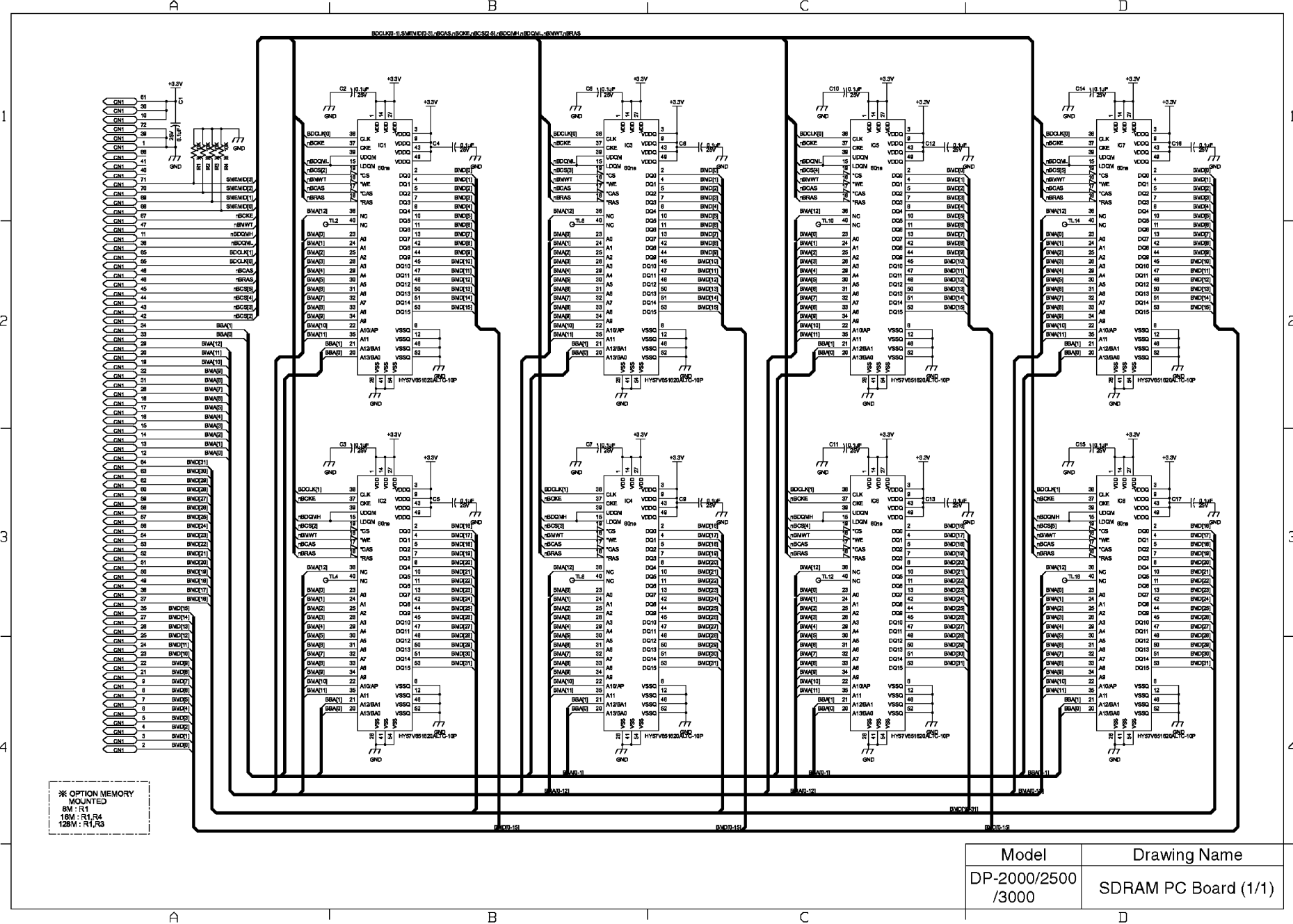








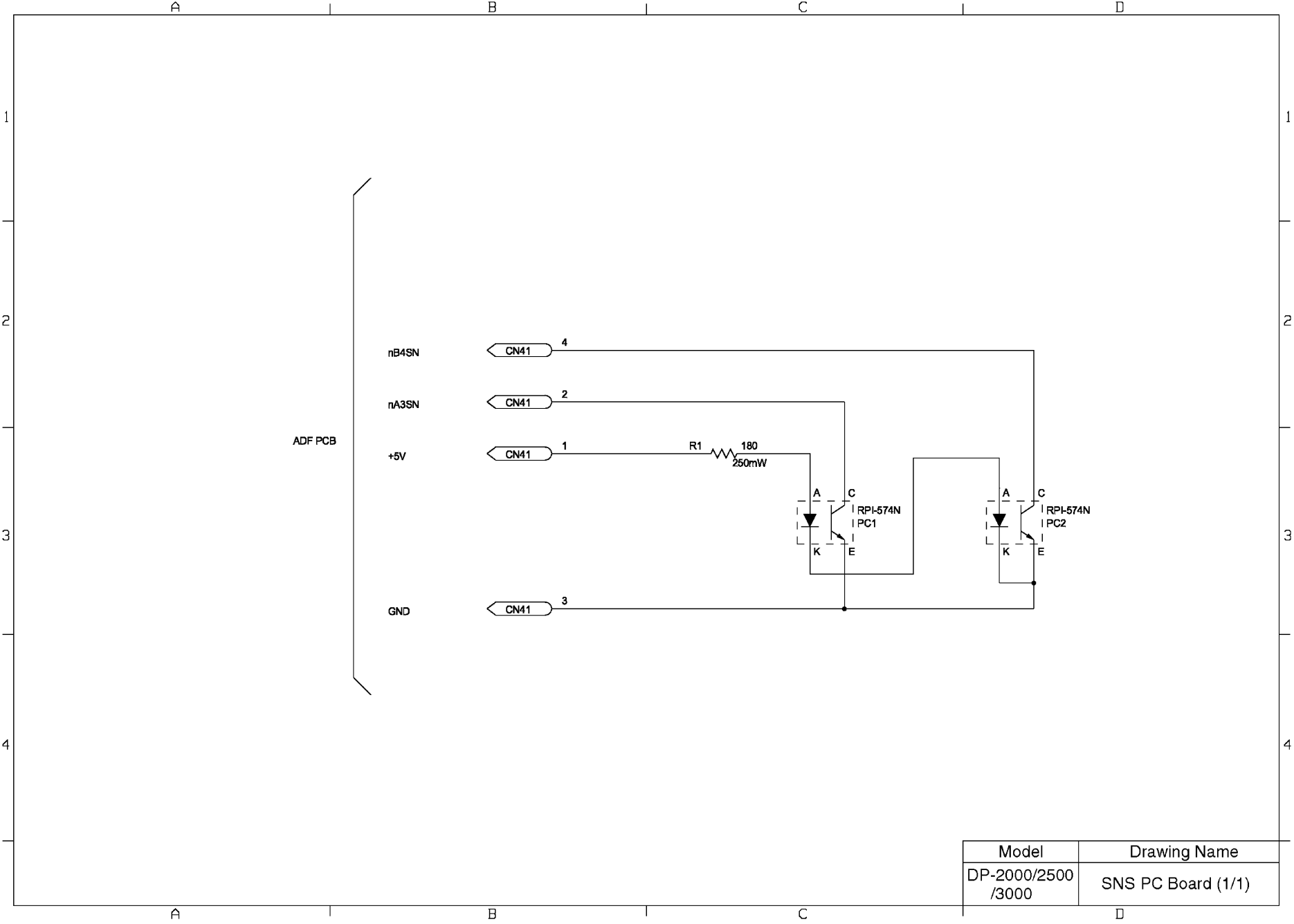
12.25. SDRAM PC Board



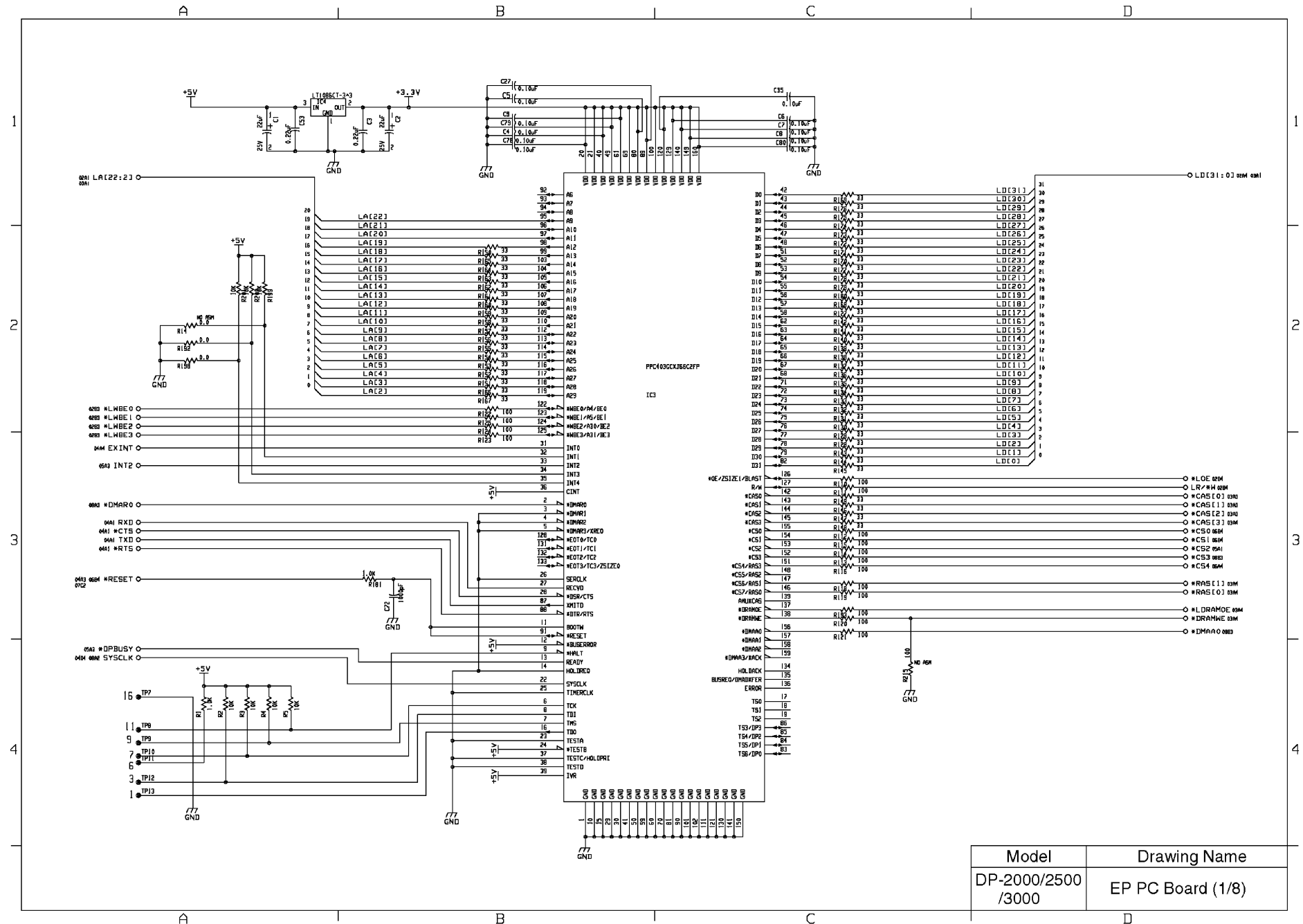
※ OPTION MEMORY  
MOUNTED  
8M: R1  
16M: R1, R4  
128M: R1, R3

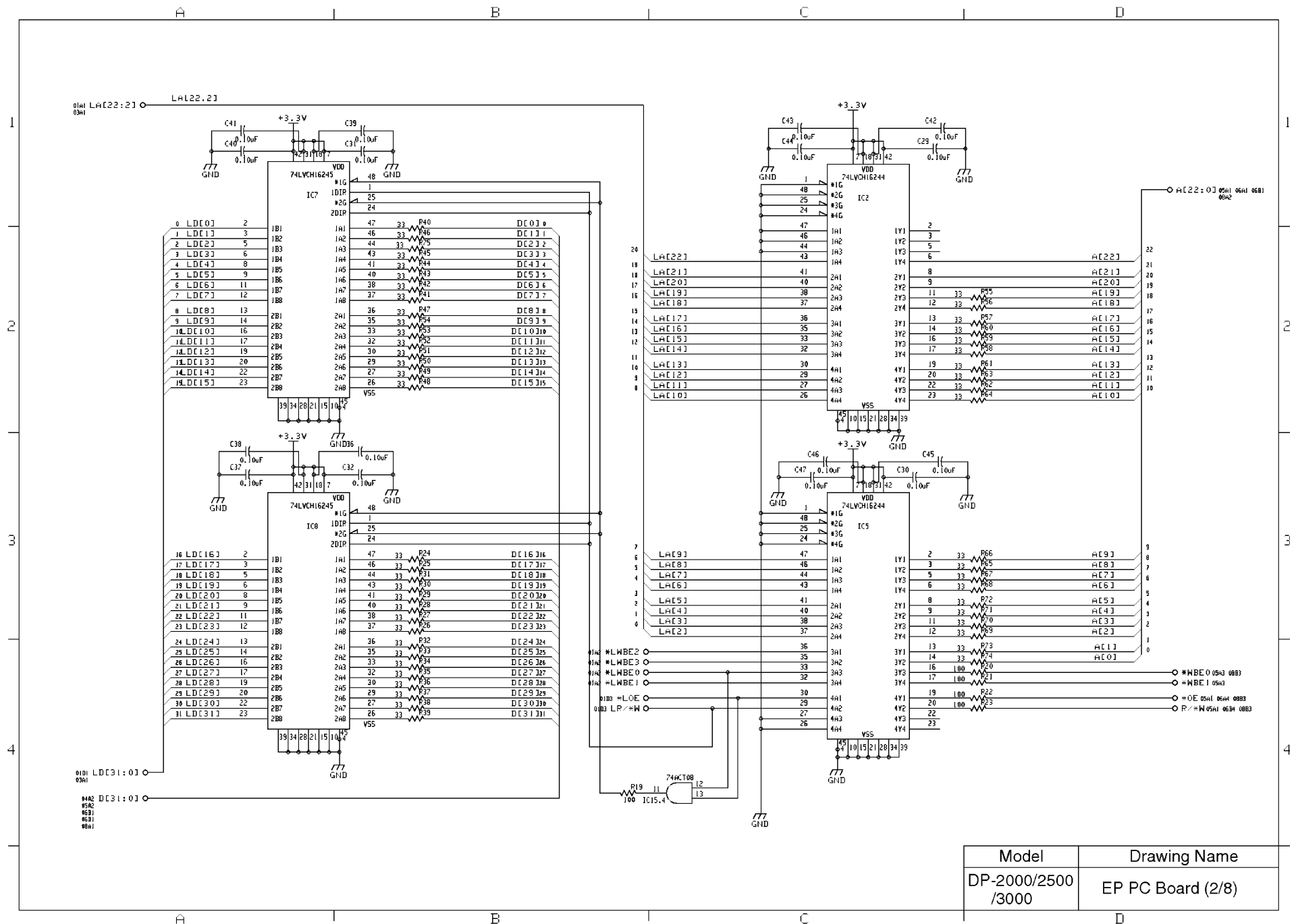
Model	Drawing Name
DP-2000/2500 /3000	SDRAM PC Board (1/1)

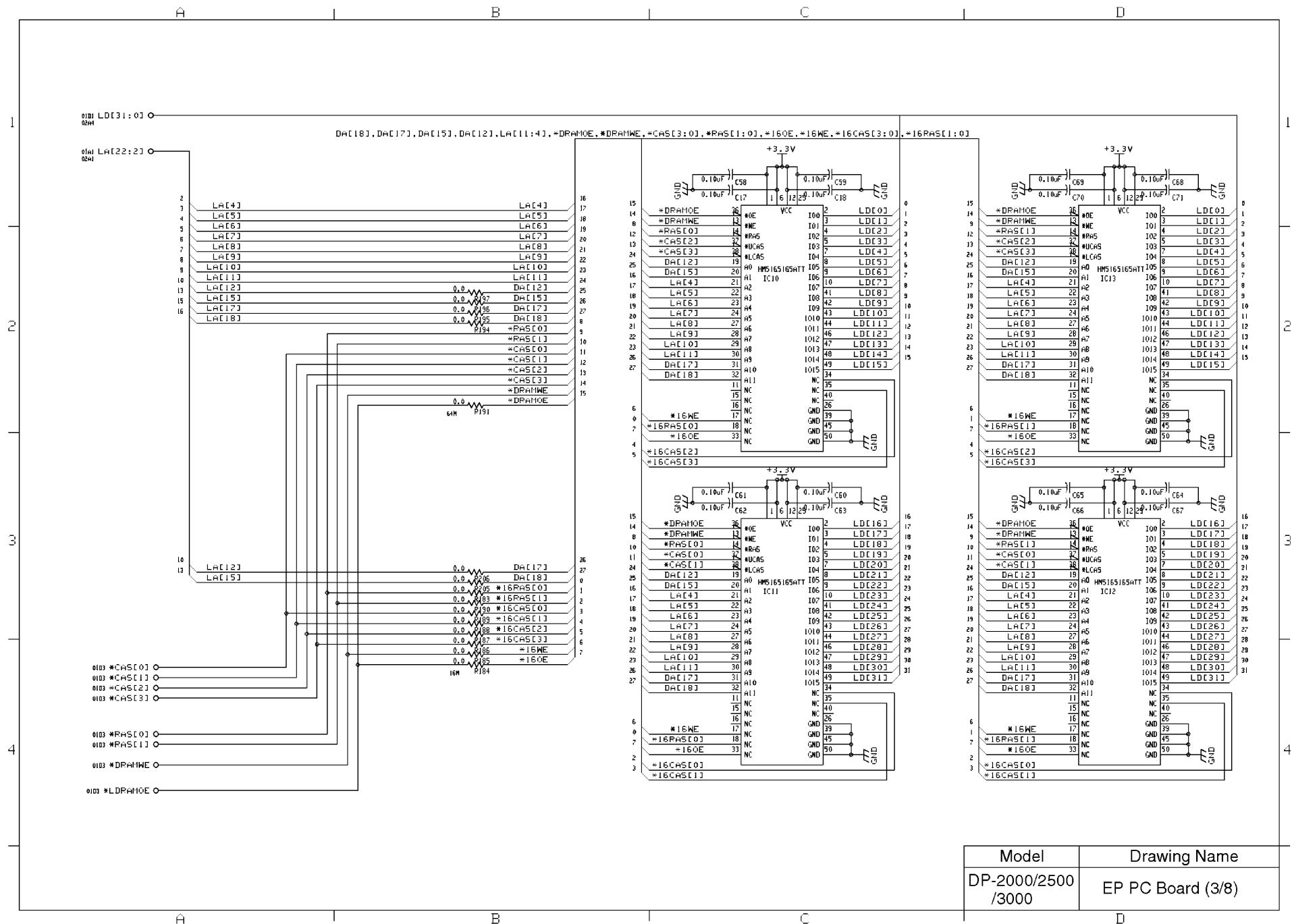
12.26. SNS PC Board



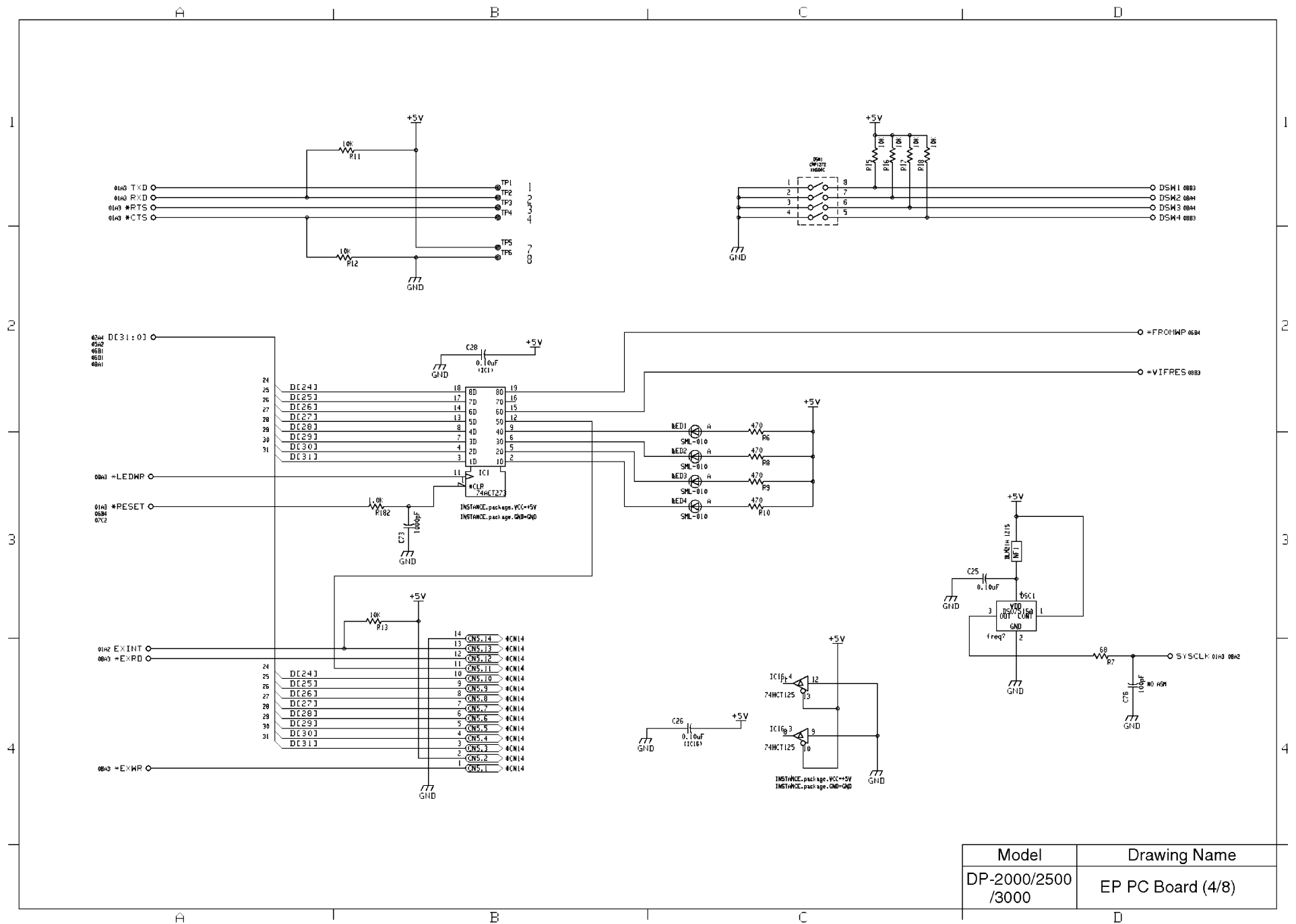
### 12.27. PDL PC Board





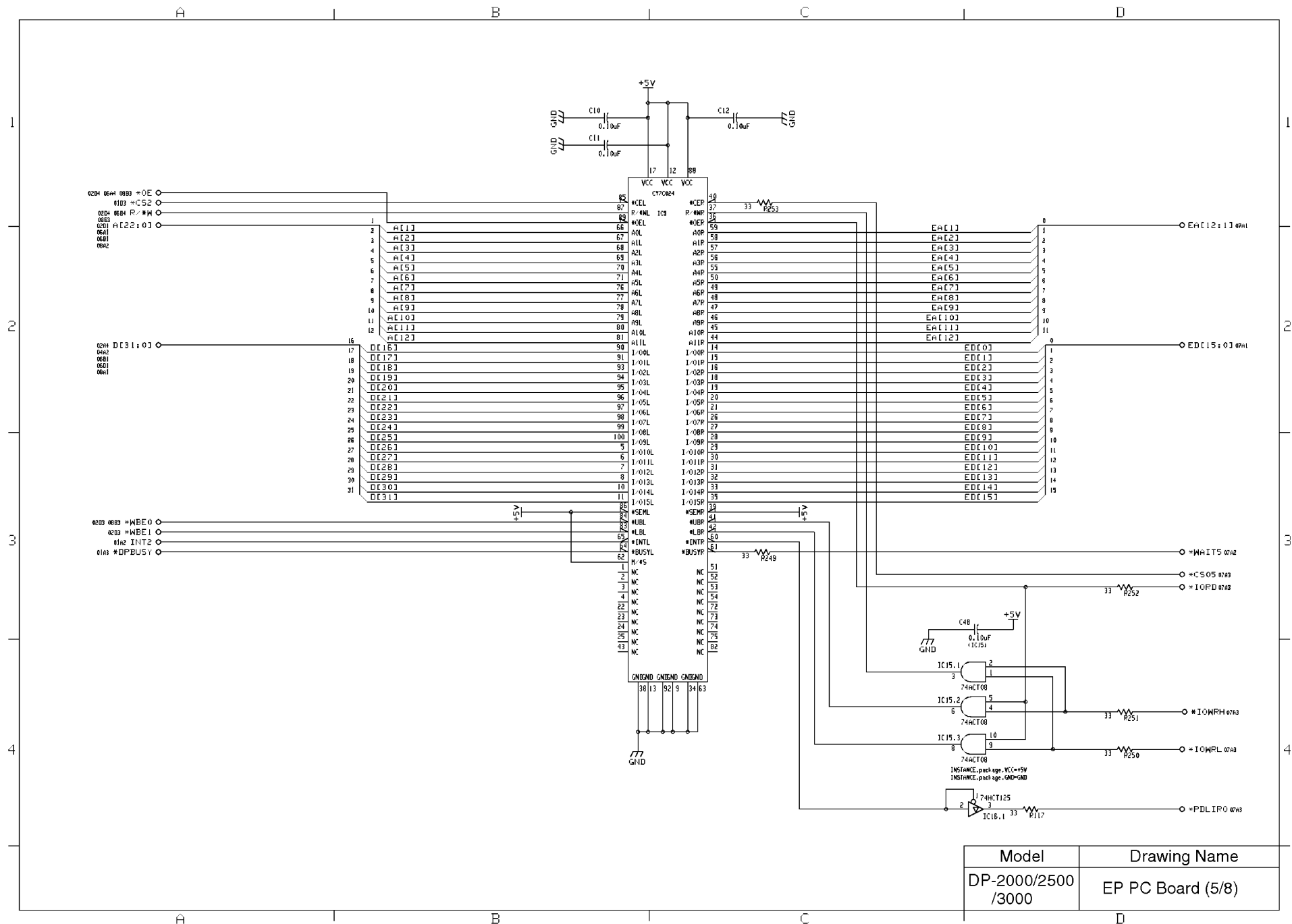


Model	Drawing Name
DP-2000/2500/3000	EP PC Board (3/8)

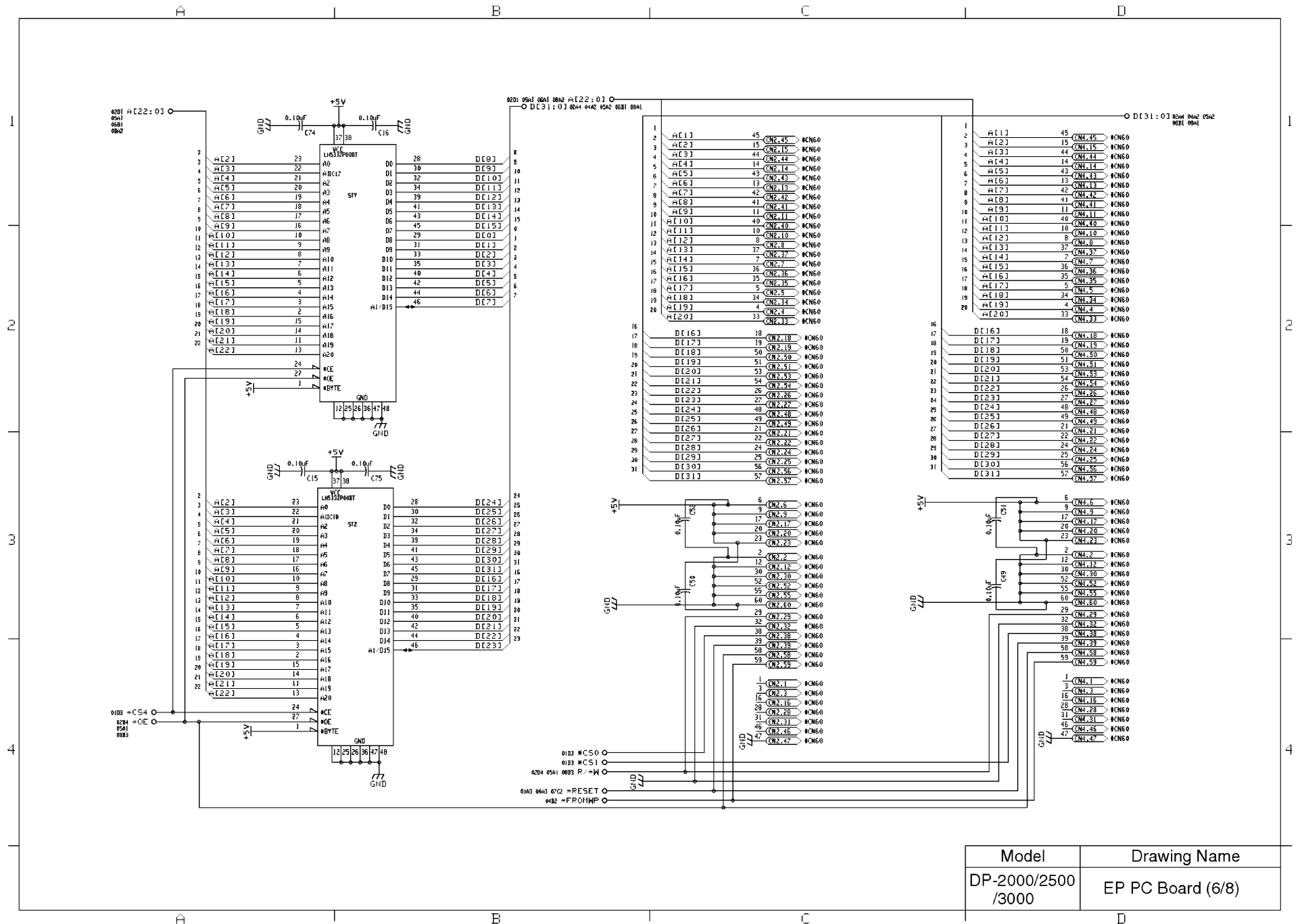


Model	Drawing Name
DP-2000/2500/3000	EP PC Board (4/8)

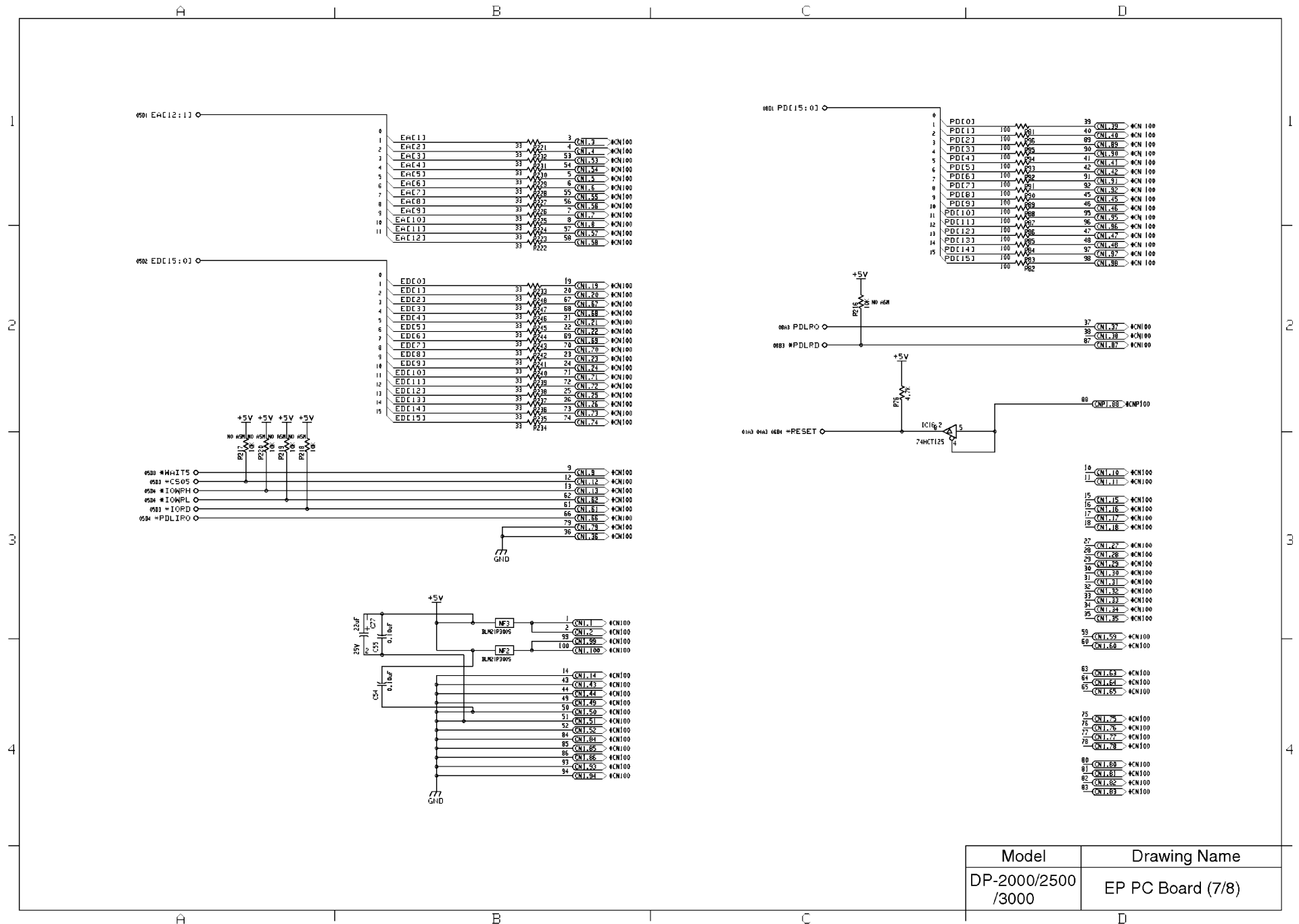


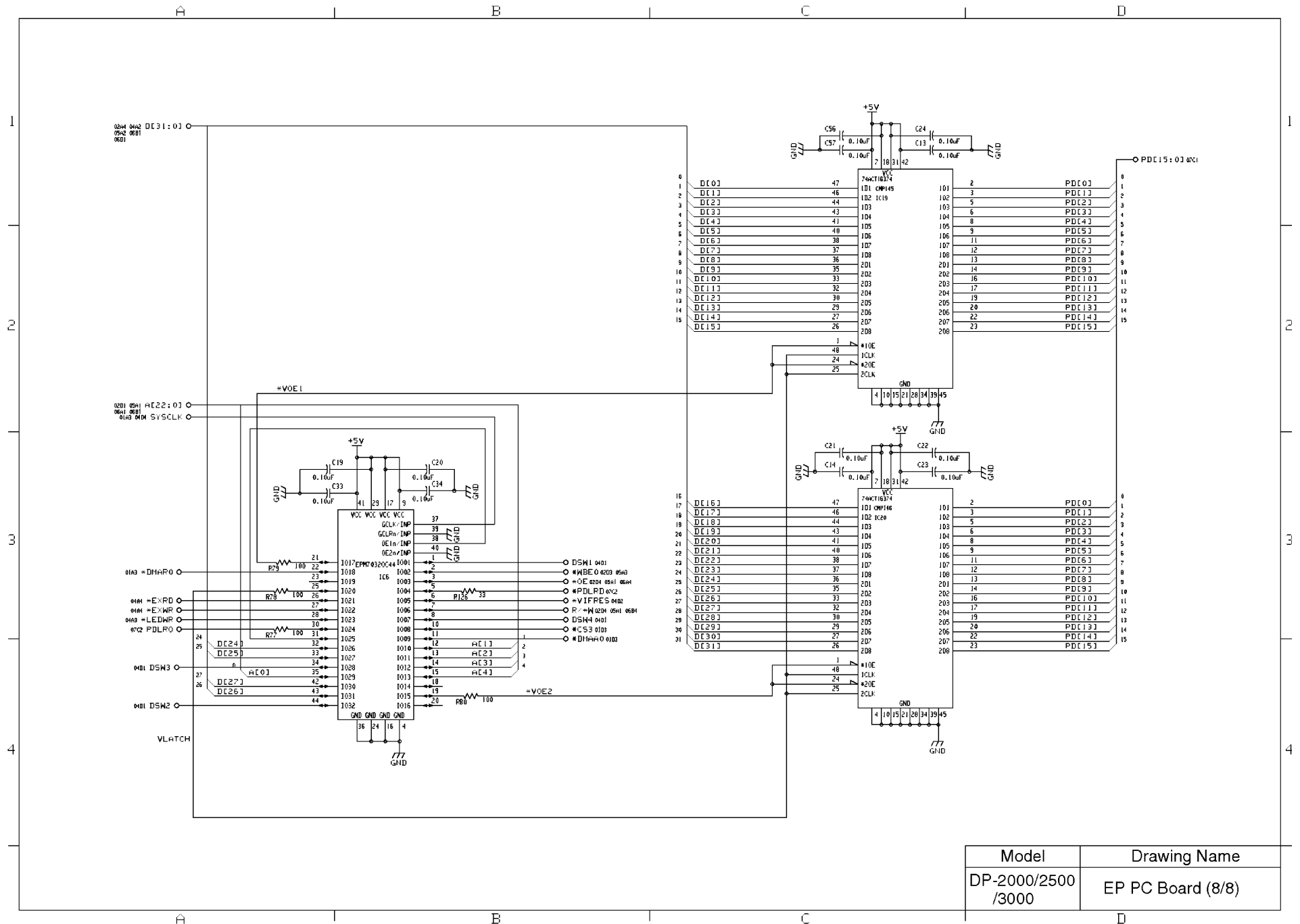


Model	Drawing Name
DP-2000/2500/3000	EP PC Board (5/8)

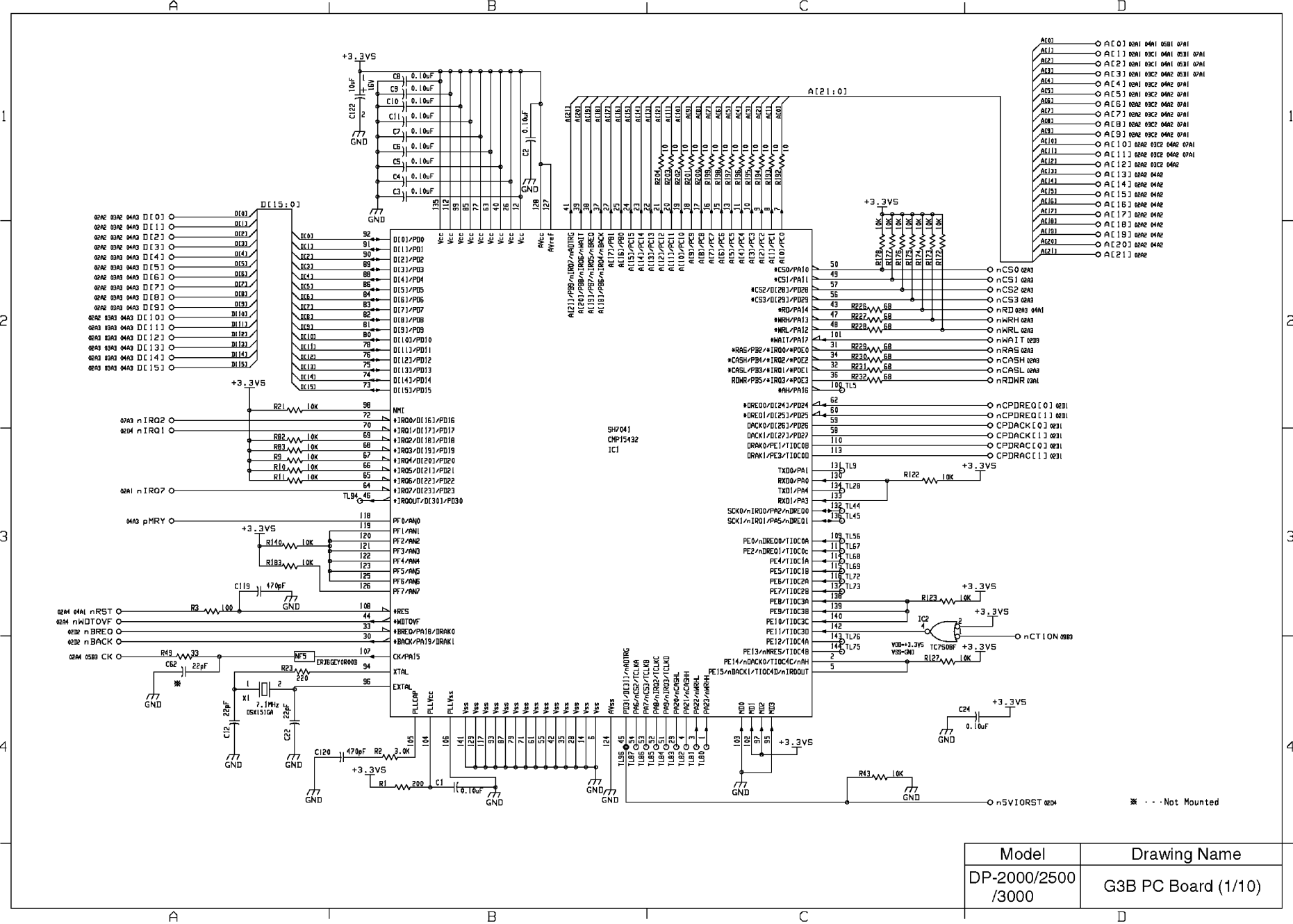


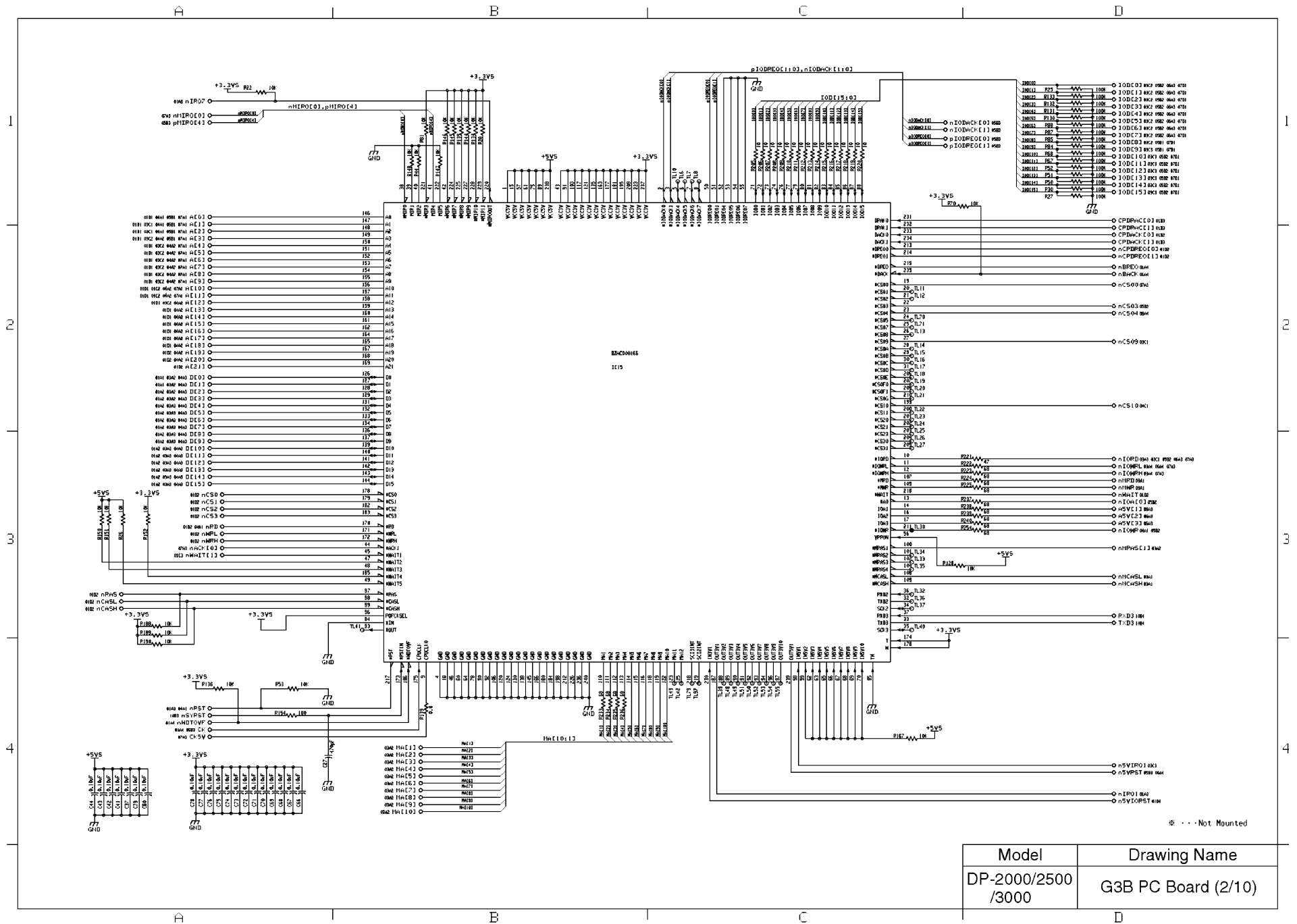
Model	Drawing Name
DP-2000/2500 /3000	EP PC Board (6/8)

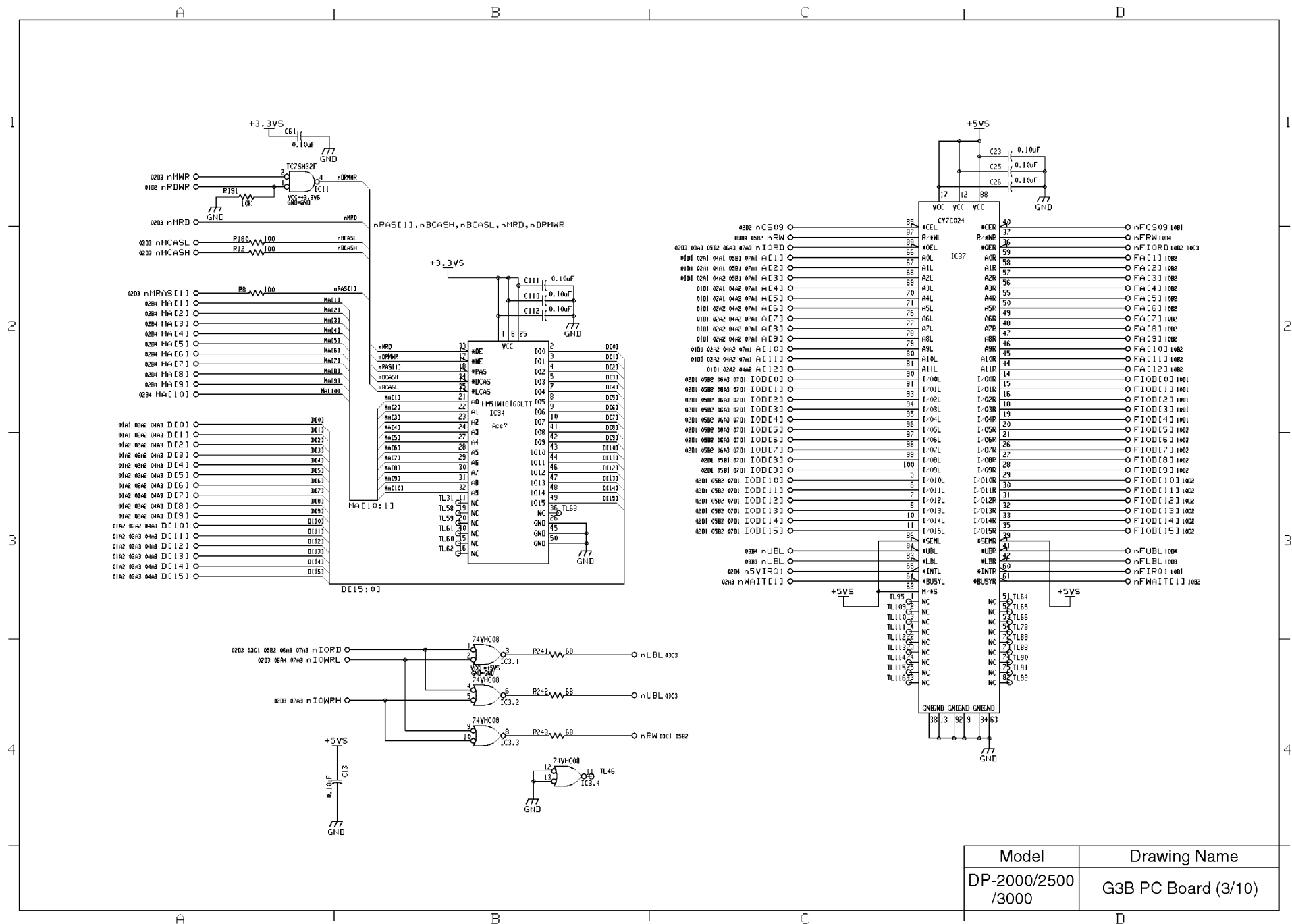


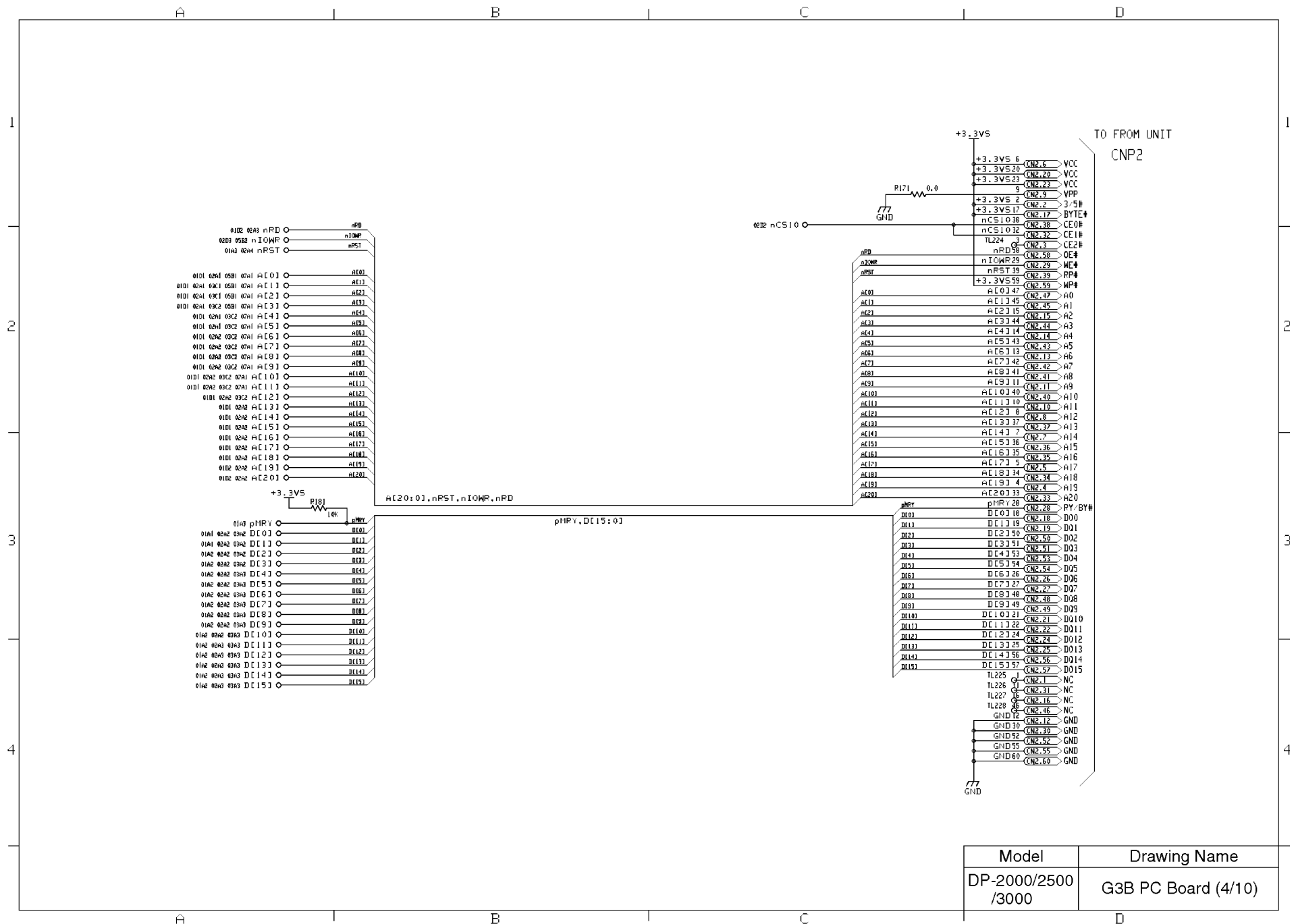


12.28. G3B PC Board



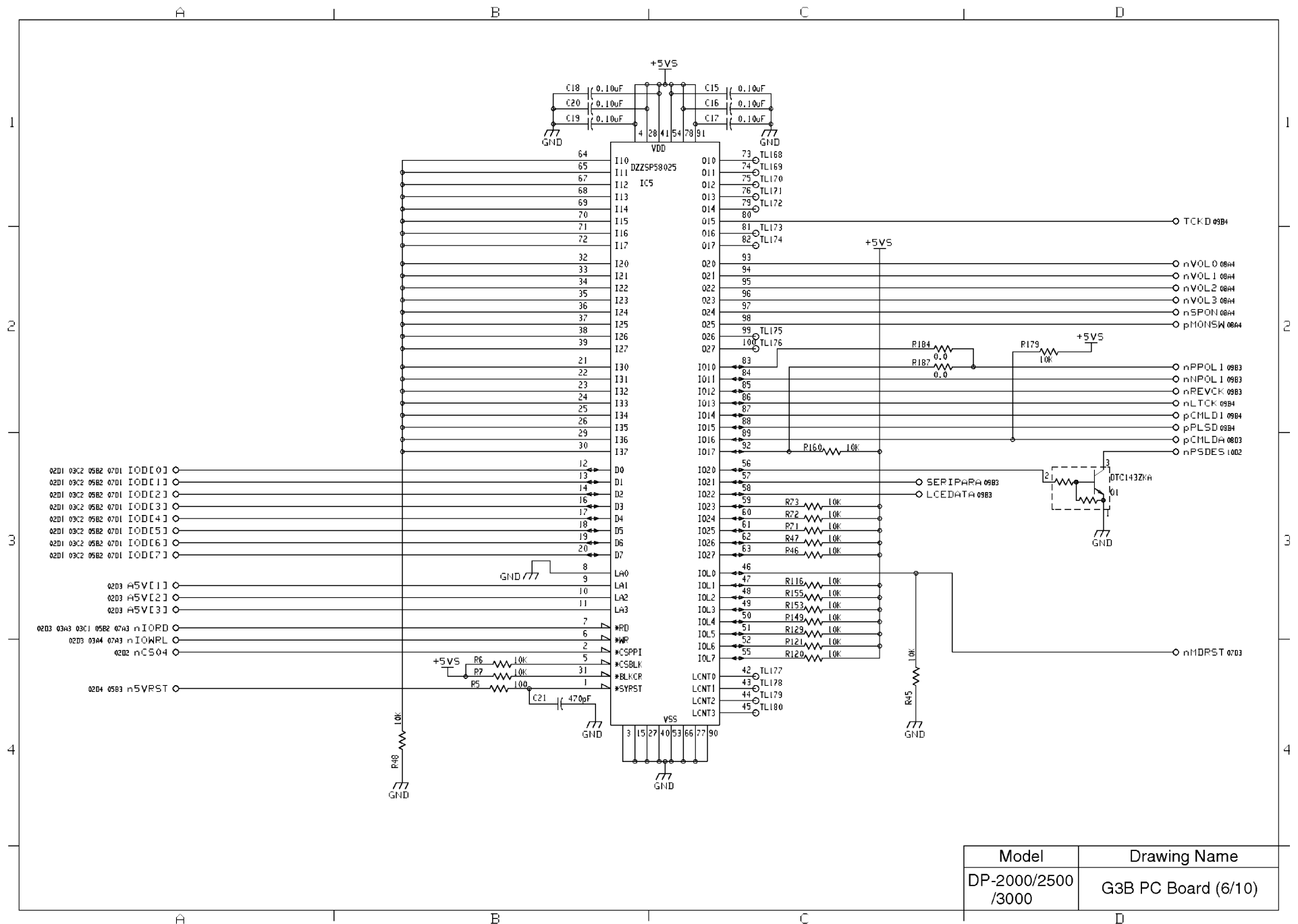


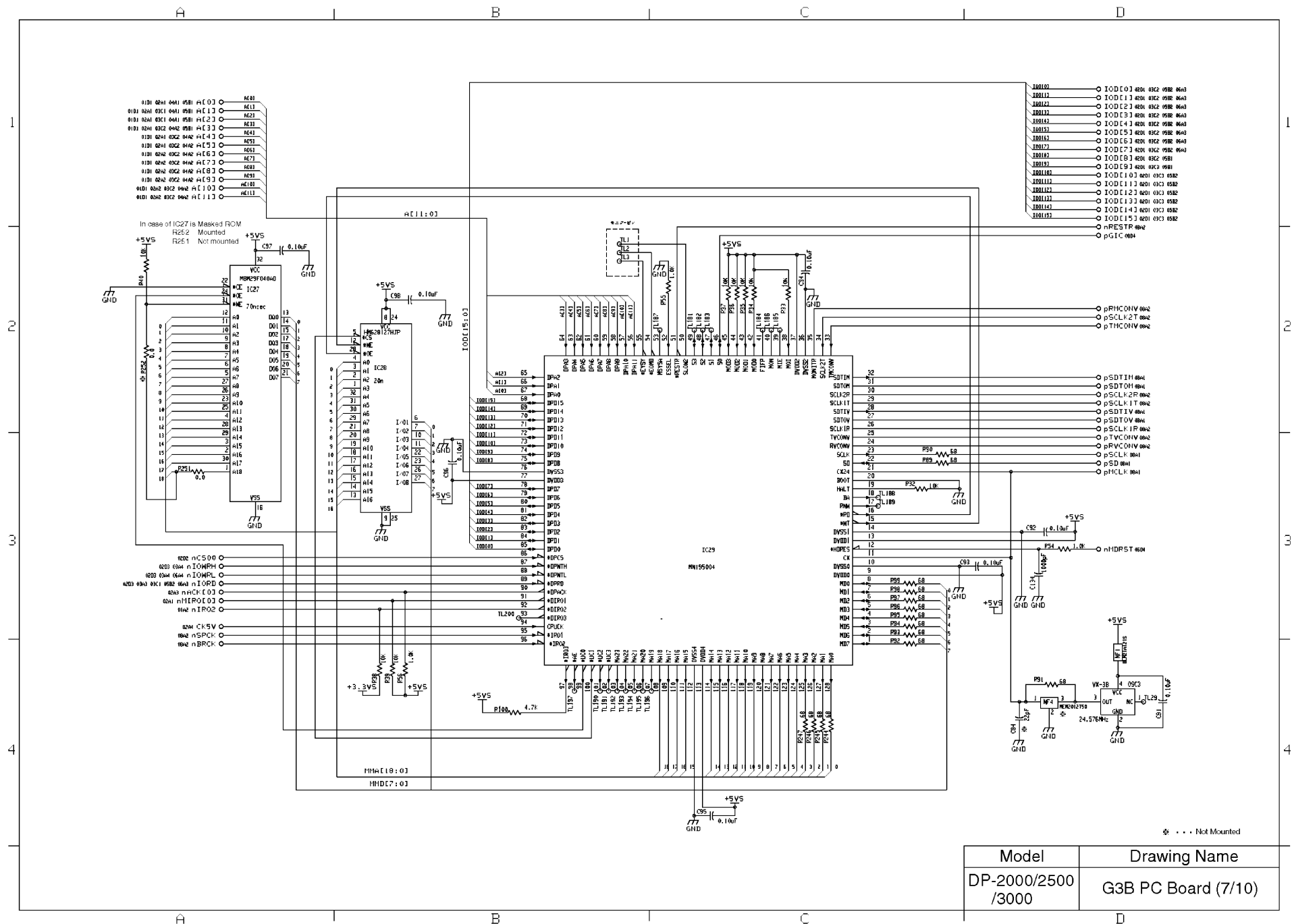


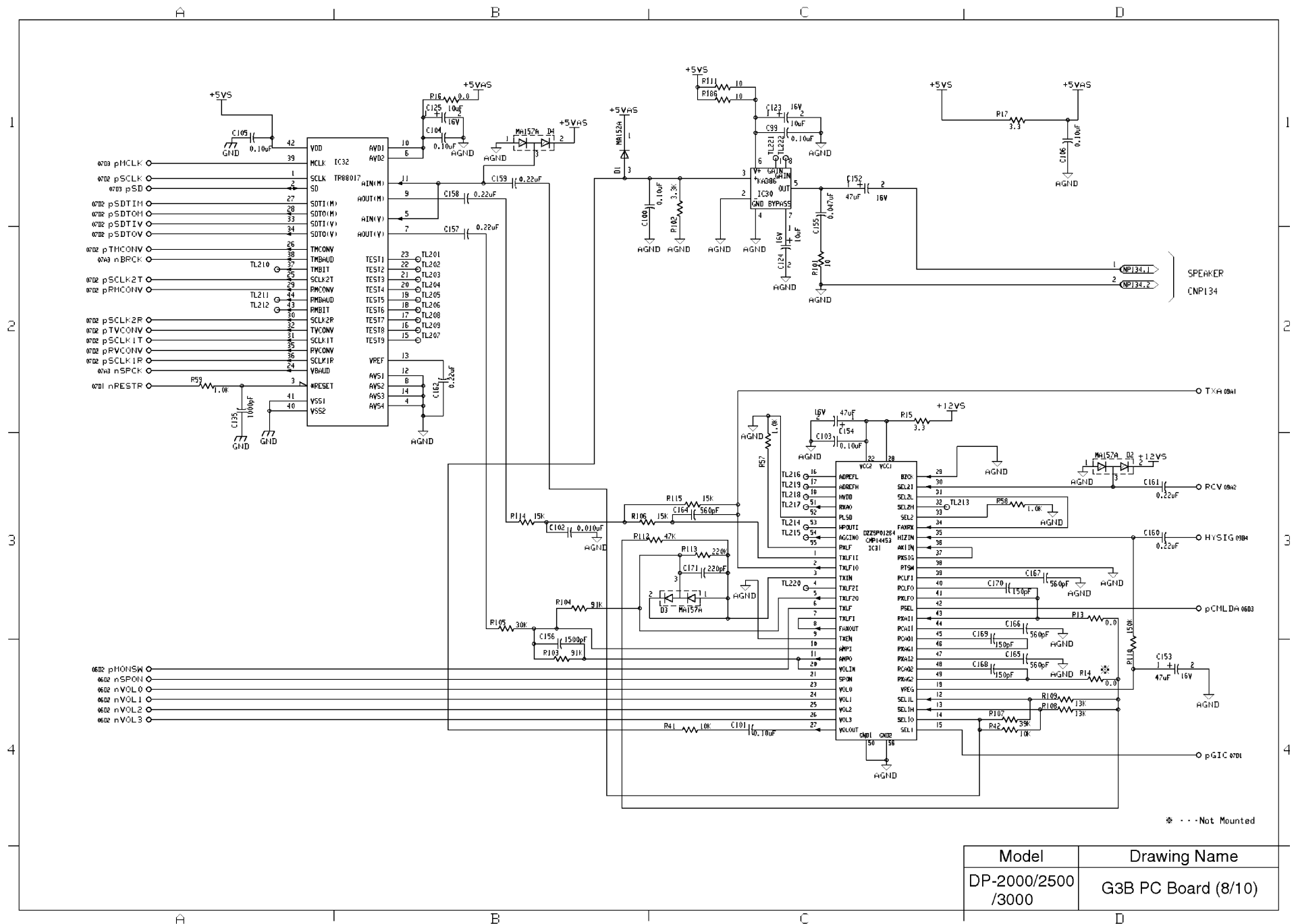


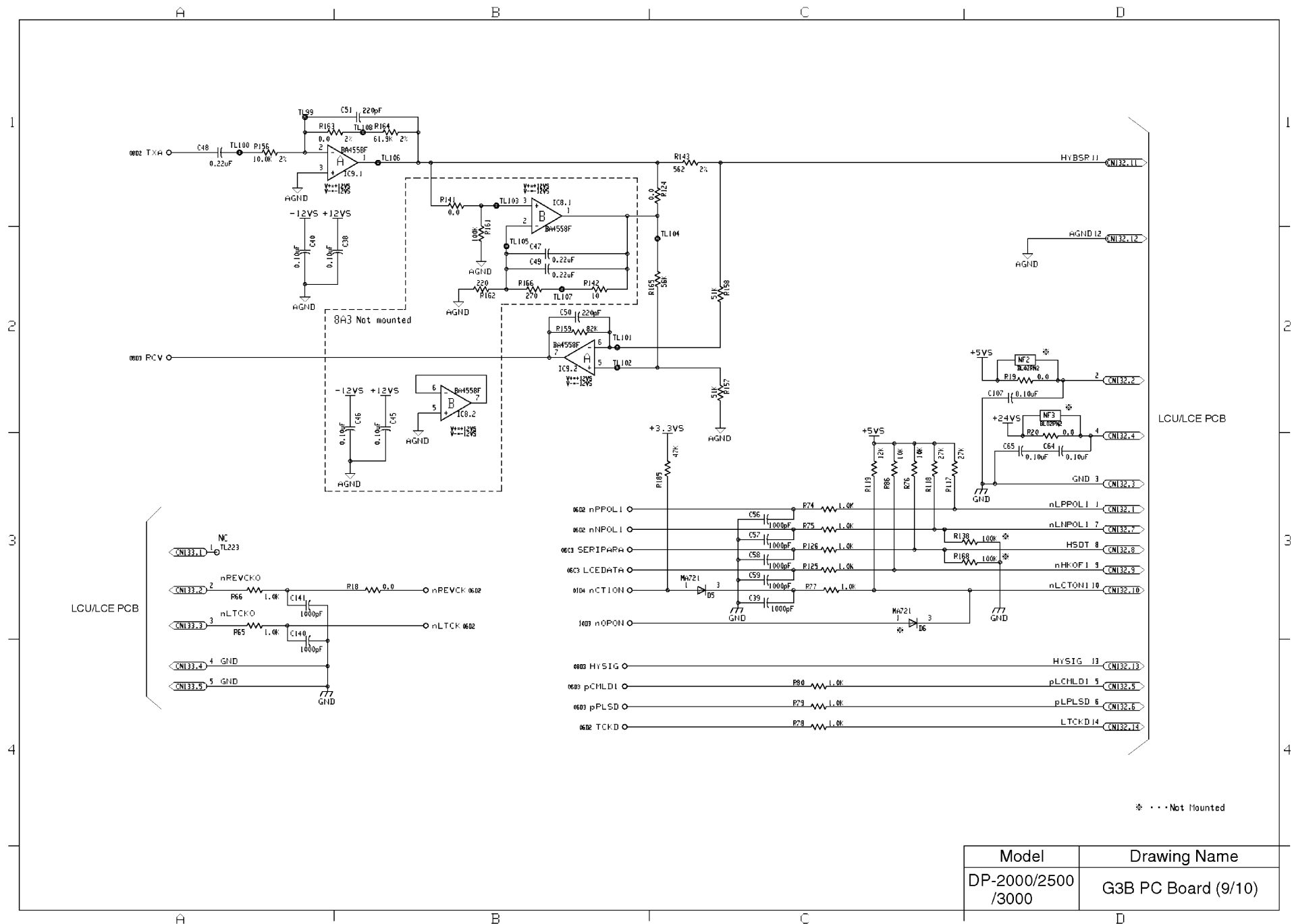


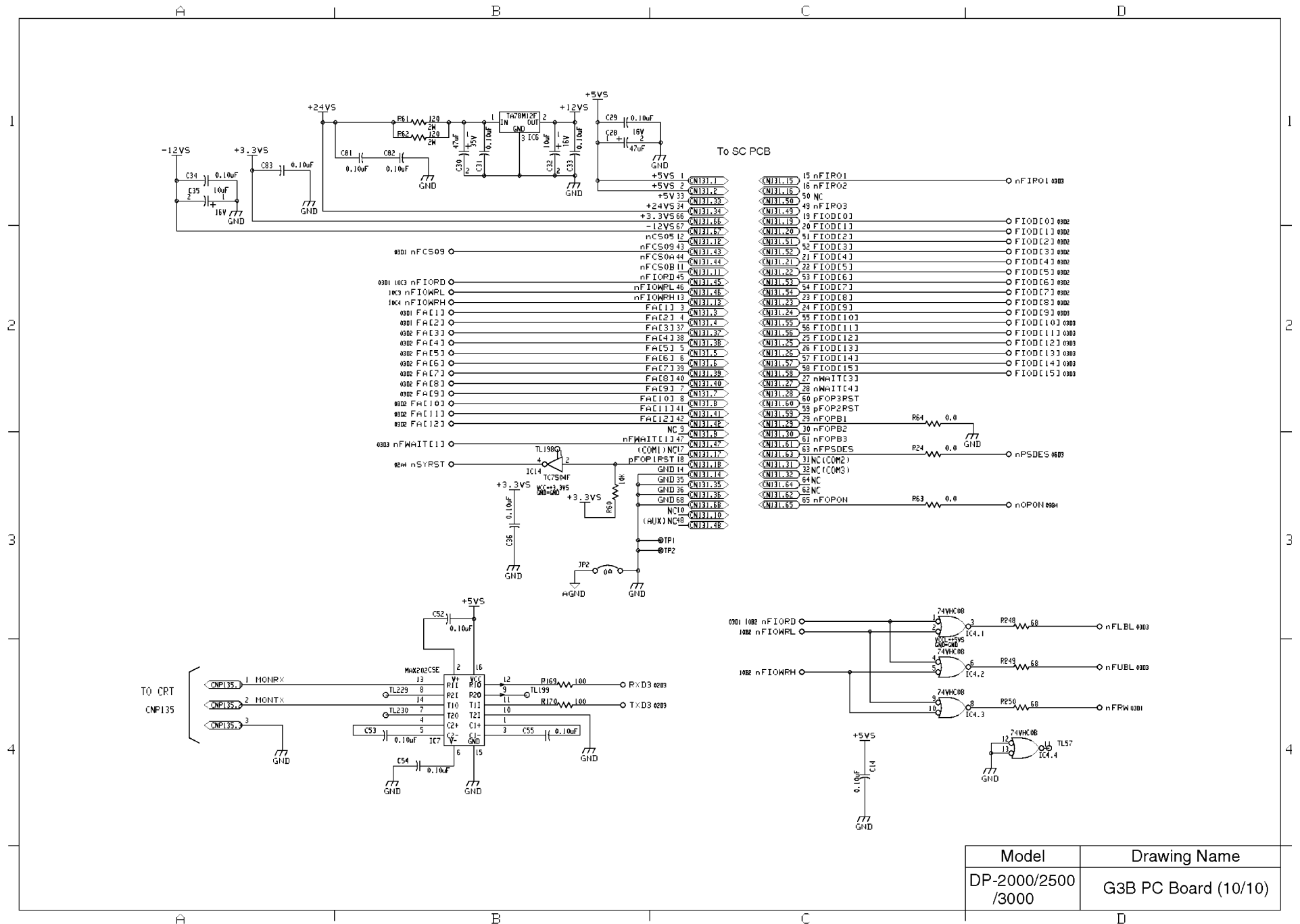




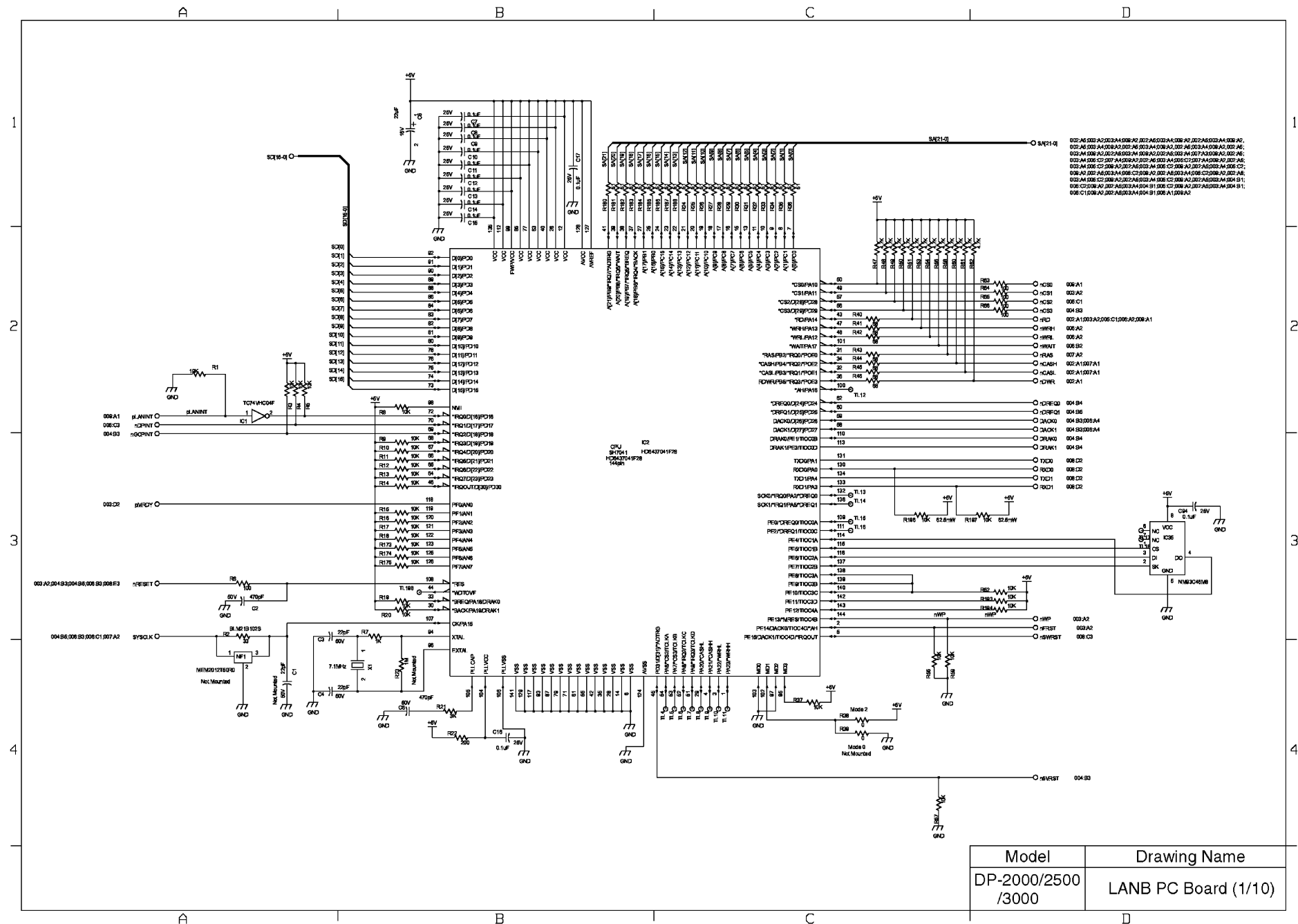








## 12.29. LANB PC Board



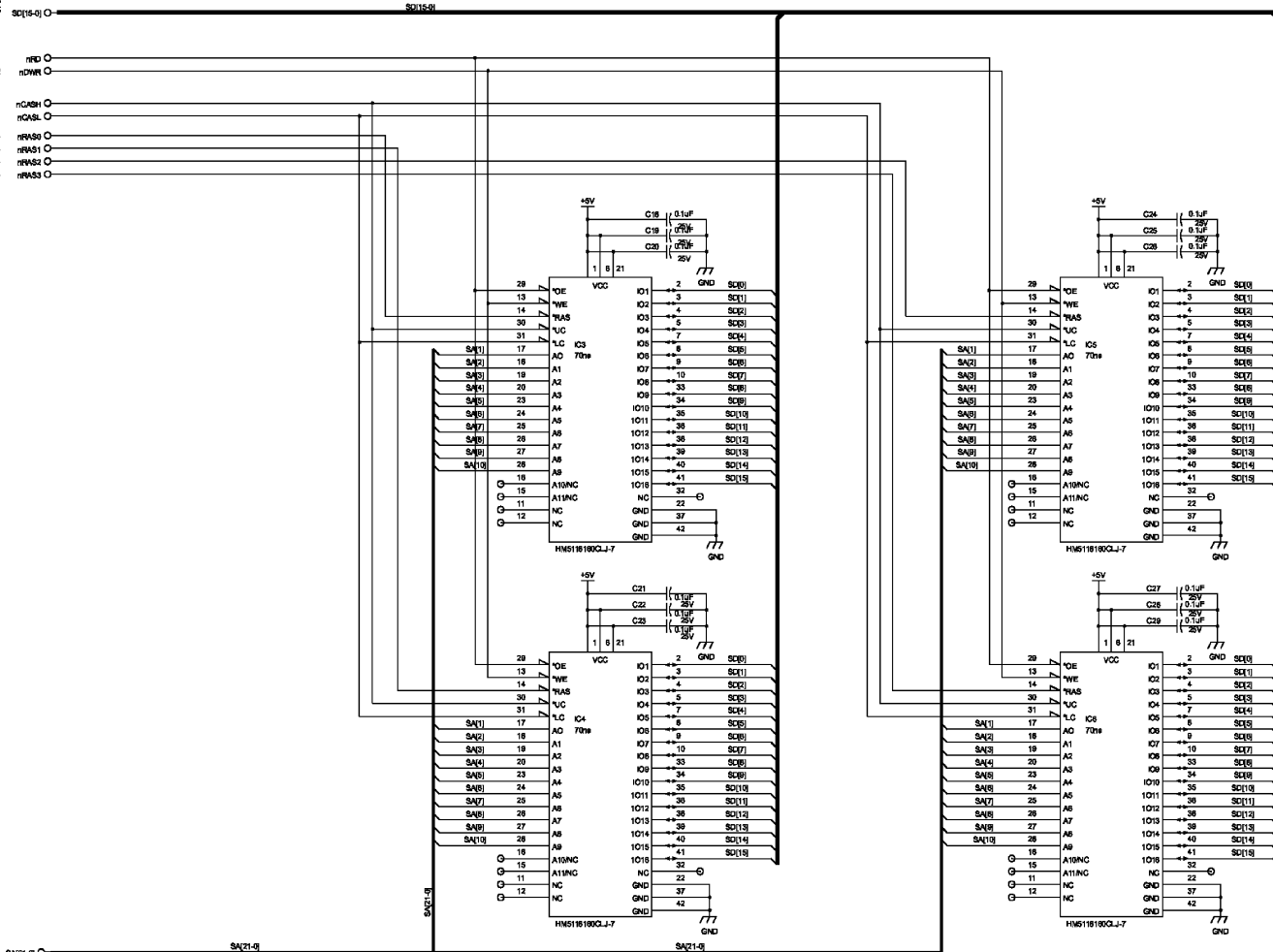
Model	Drawing Name
DP-2000/2500 /3000	LANB PC Board (1/10)

001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,  
004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,  
006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,  
003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,  
005 C2,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,  
001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3,001 B1,003 C2,  
004 B2,005 C3,006 A3,001 B1,003 C2,004 B2,005 C3,006 A3

001 D2,003 A2,005 C1,006 A2,006 A1

001 D2  
001 C2,006 A1  
001 C2,006 A1  
007 B3  
007 B4  
007 B4  
007 B4

001 C1,003 A3,006 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,  
006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,  
005 C2,006 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,006 A2,001 C1,003 A4,  
003 A4,006 C2,006 A2,001 C1,003 A4,006 C2,006 A2,001 C1,003 A4,006 C2,006 A2,001 C1,  
003 A4,006 C2,006 A2,001 C1,003 A4,006 C2,006 A2,001 C1,003 A4,006 C2,006 A2,001 C1,  
001 C1,003 A4,006 A1,005 C2,006 A2,001 C1,003 A4,006 A1,005 C2,006 A2,  
001 C1,003 A4,006 A1,005 C2,006 A2,001 C1,003 A4,006 A1,005 C2,006 A2,001 C1,003 A4,  
004 B1,006 A1,006 A2

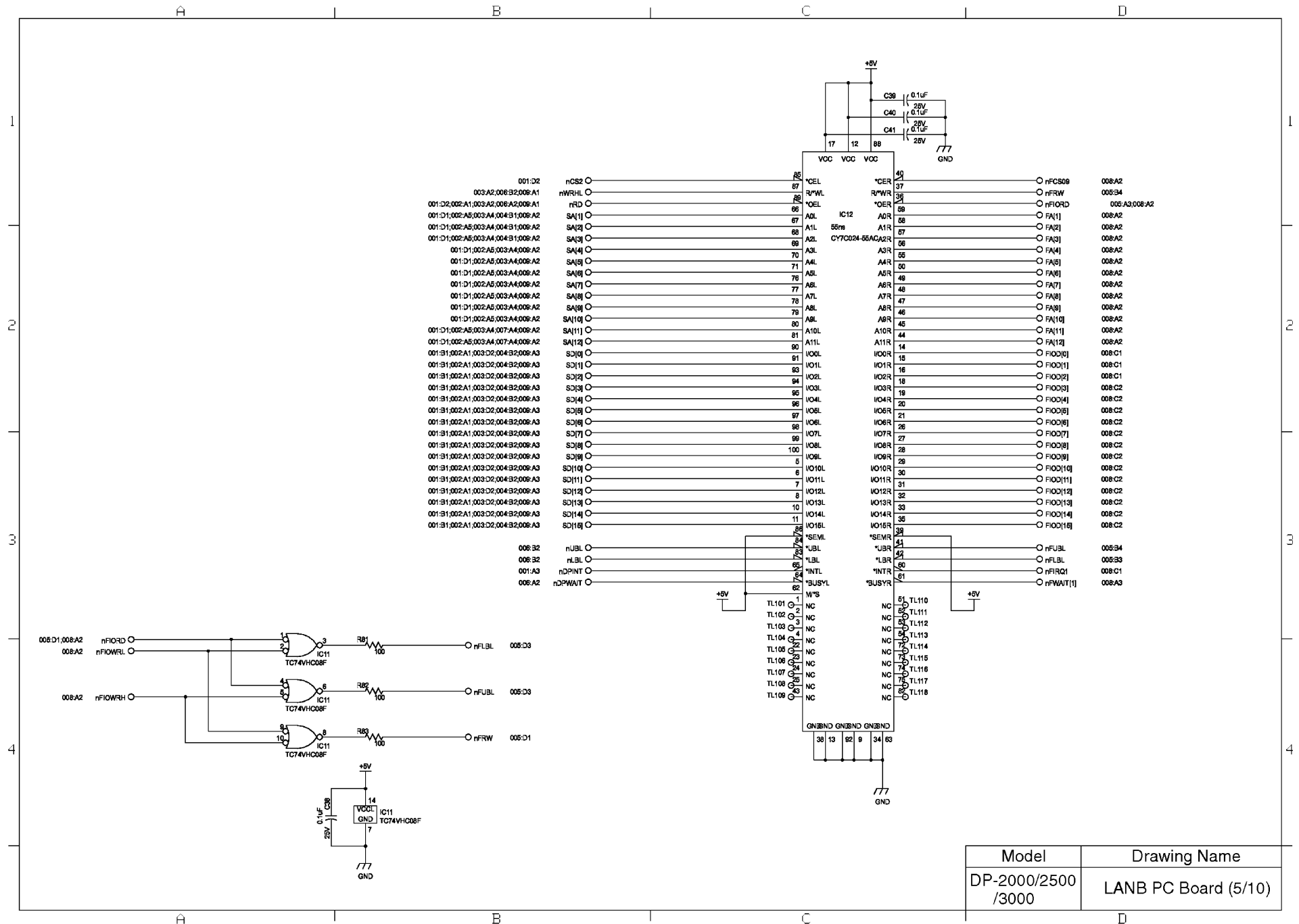


Model	Drawing Name
DP-2000/2500 /3000	LANB PC Board (2/10)

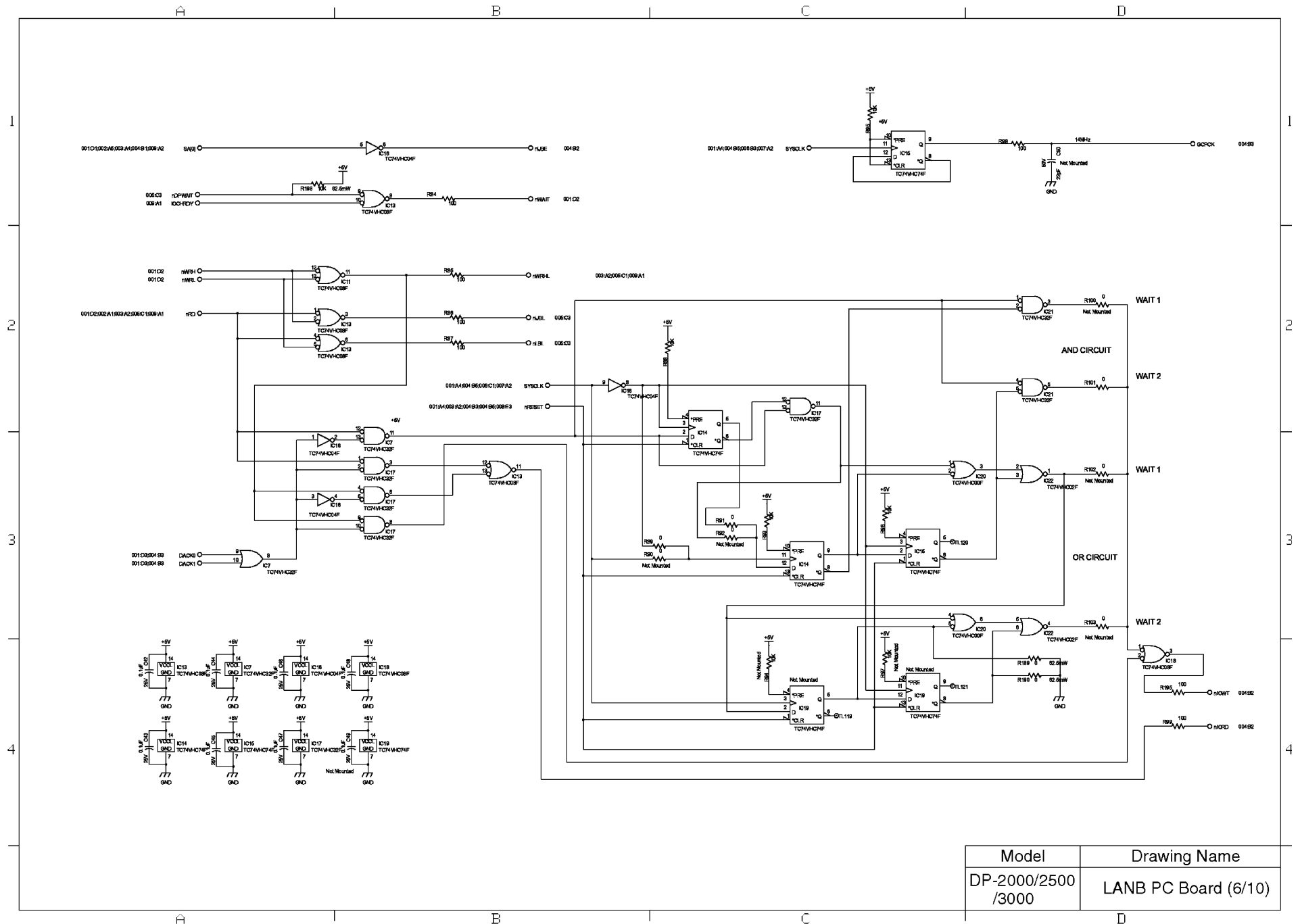


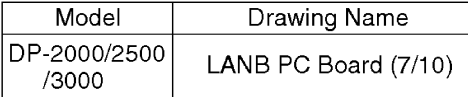


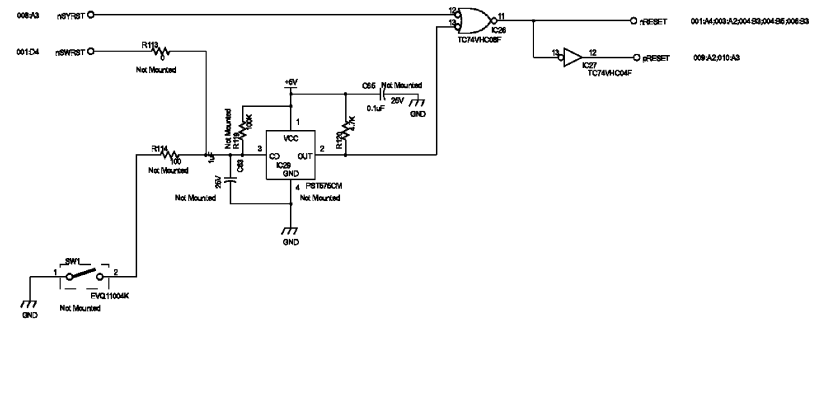
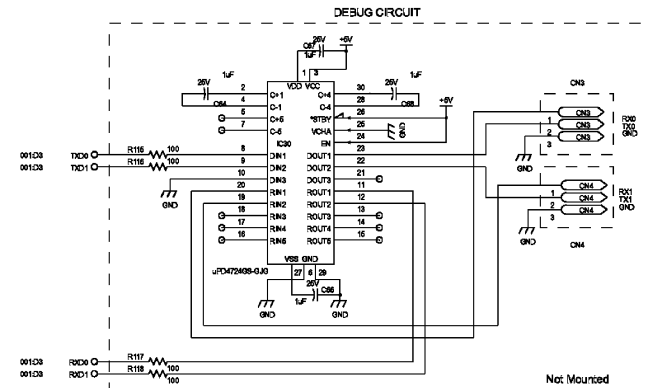
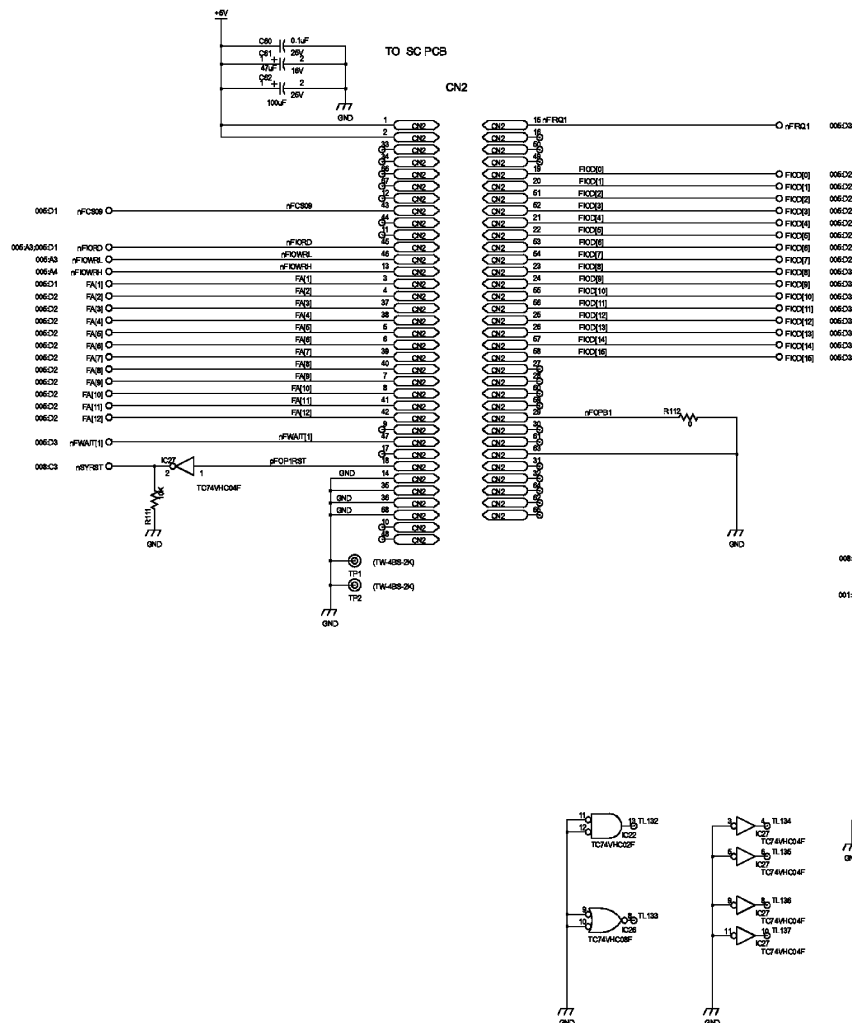




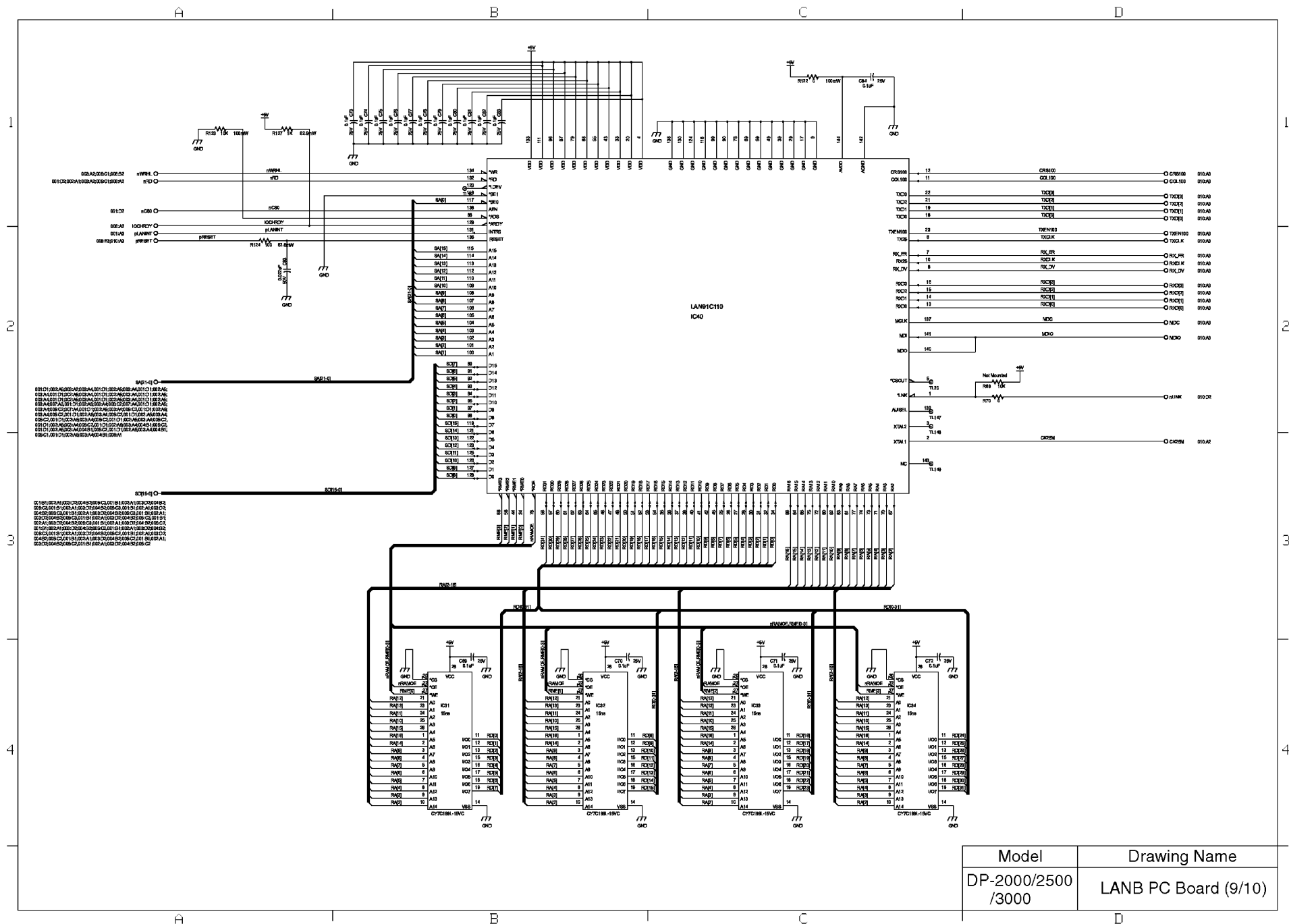
Model	Drawing Name
DP-2000/2500 /3000	LANB PC Board (5/10)



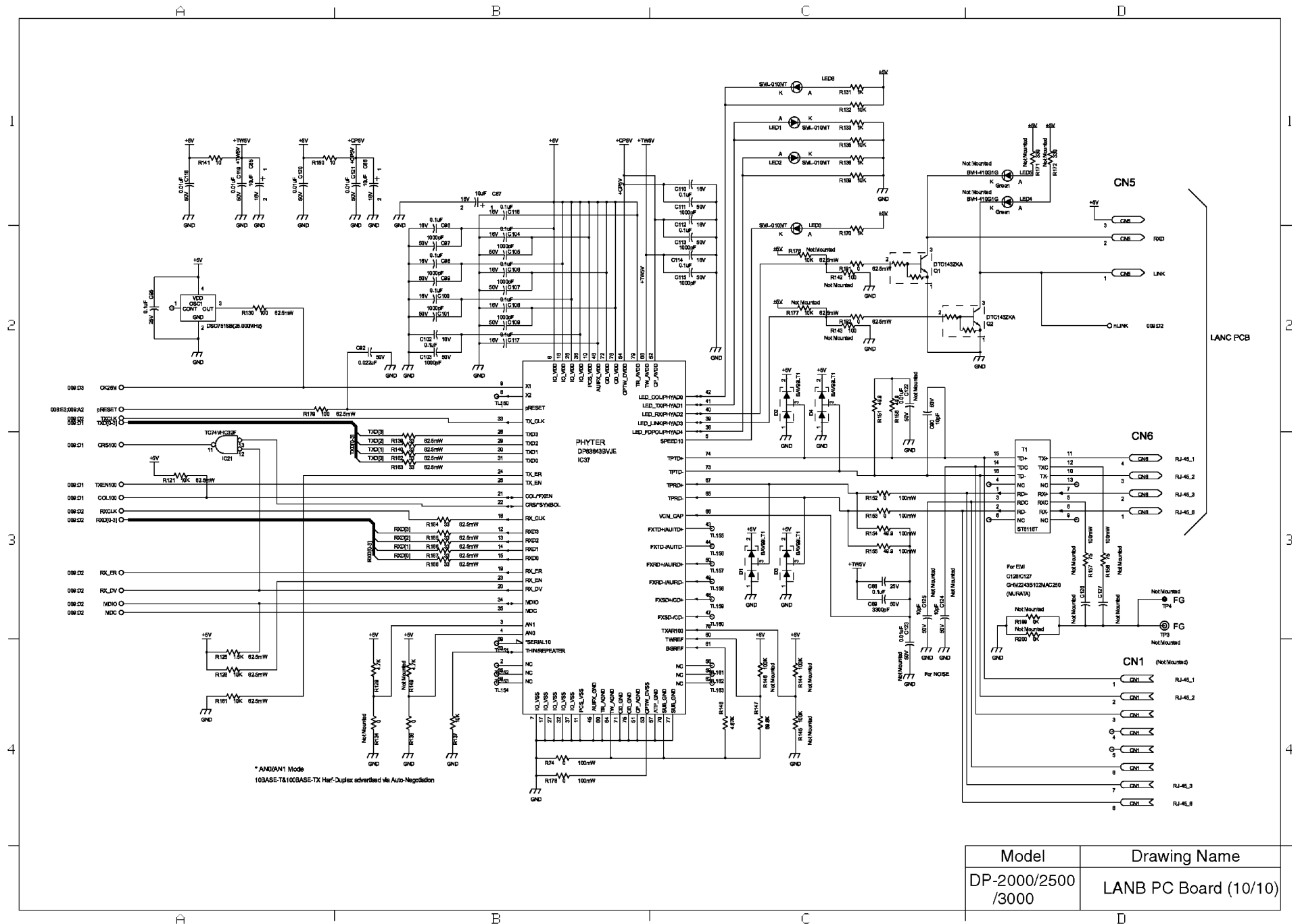




Model	Drawing Name
DP-2000/2500 /3000	LANB PC Board (8/10)

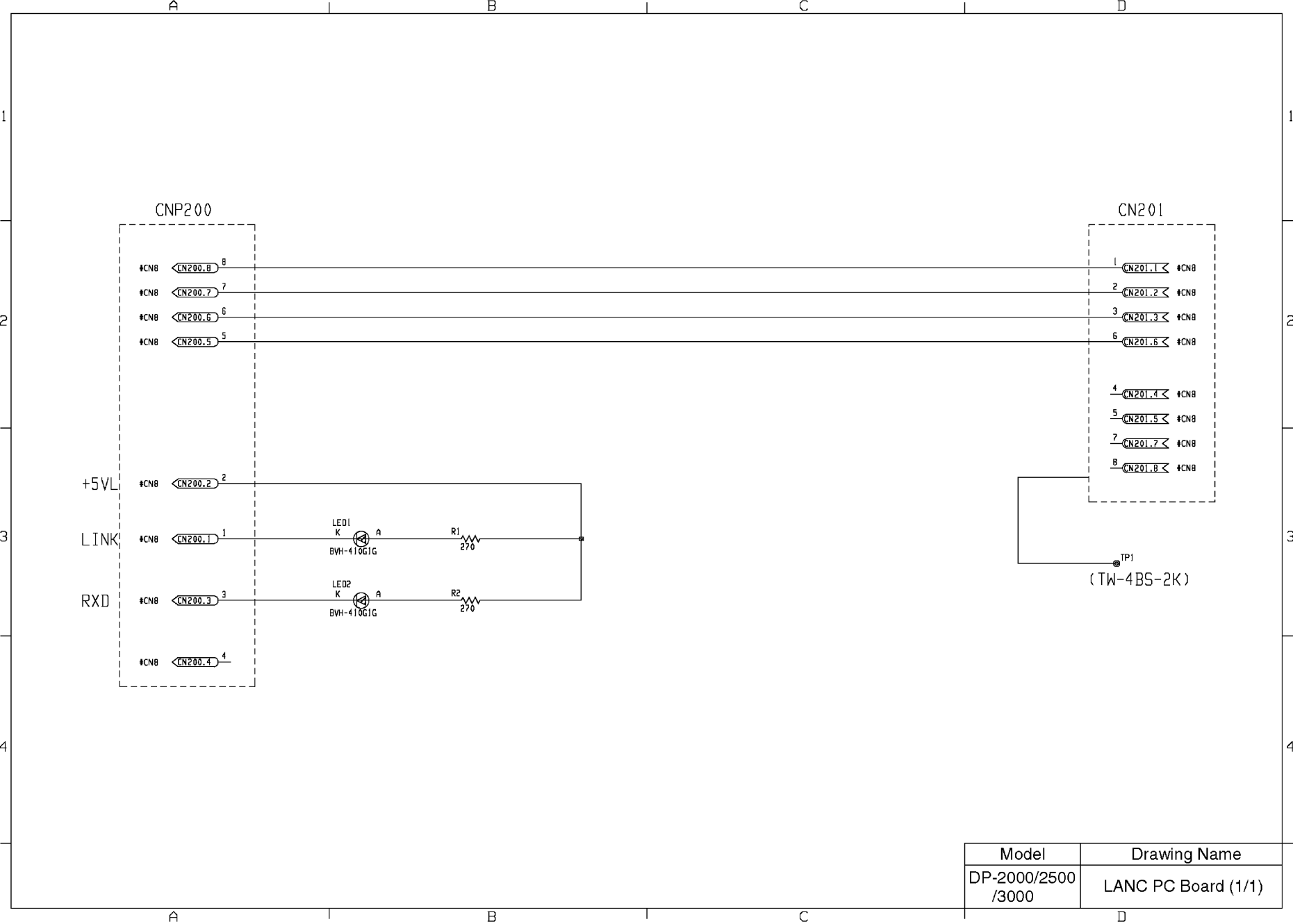


Model	Drawing Name
DP-2000/2500 /3000	LANB PC Board (9/10)

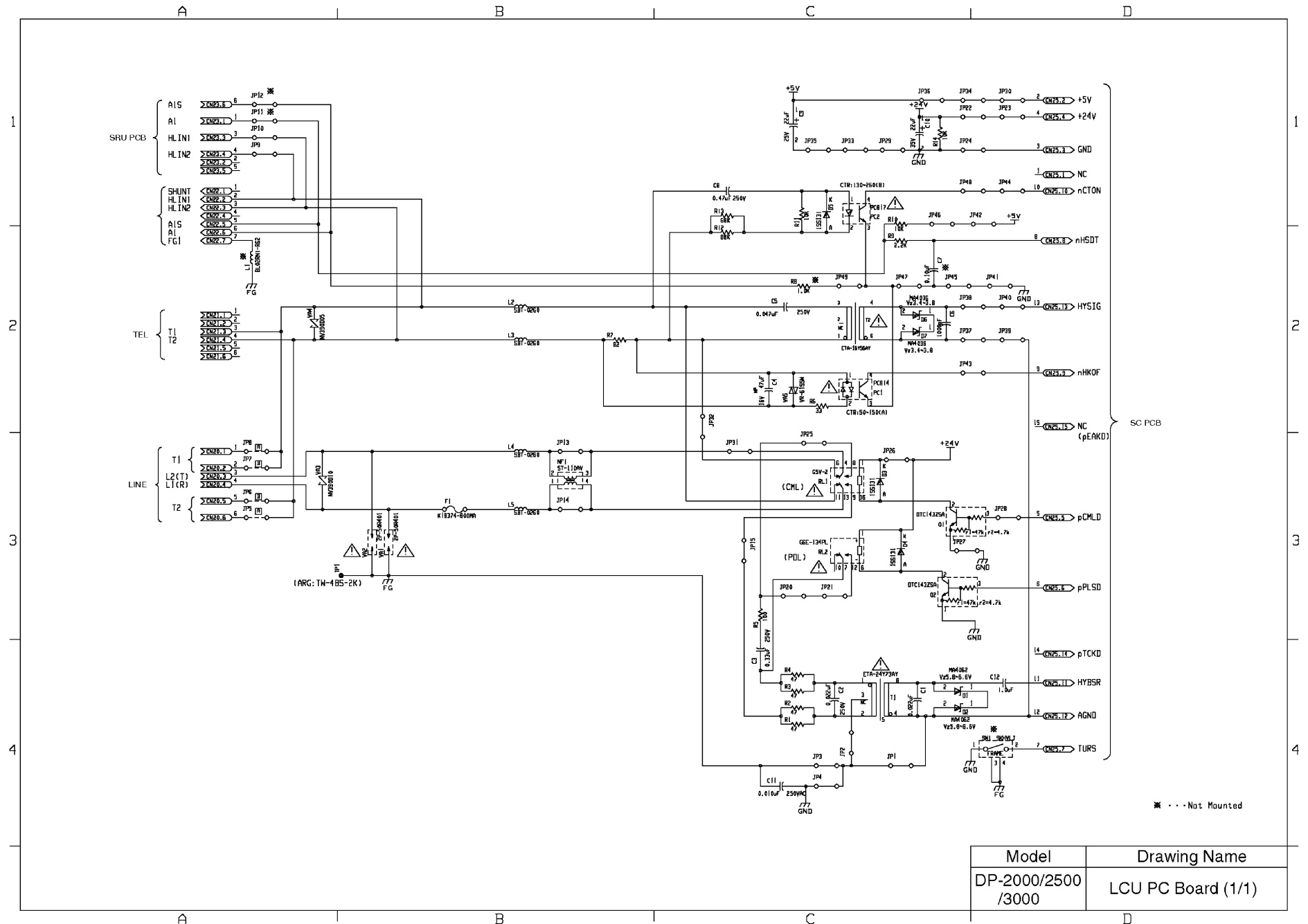




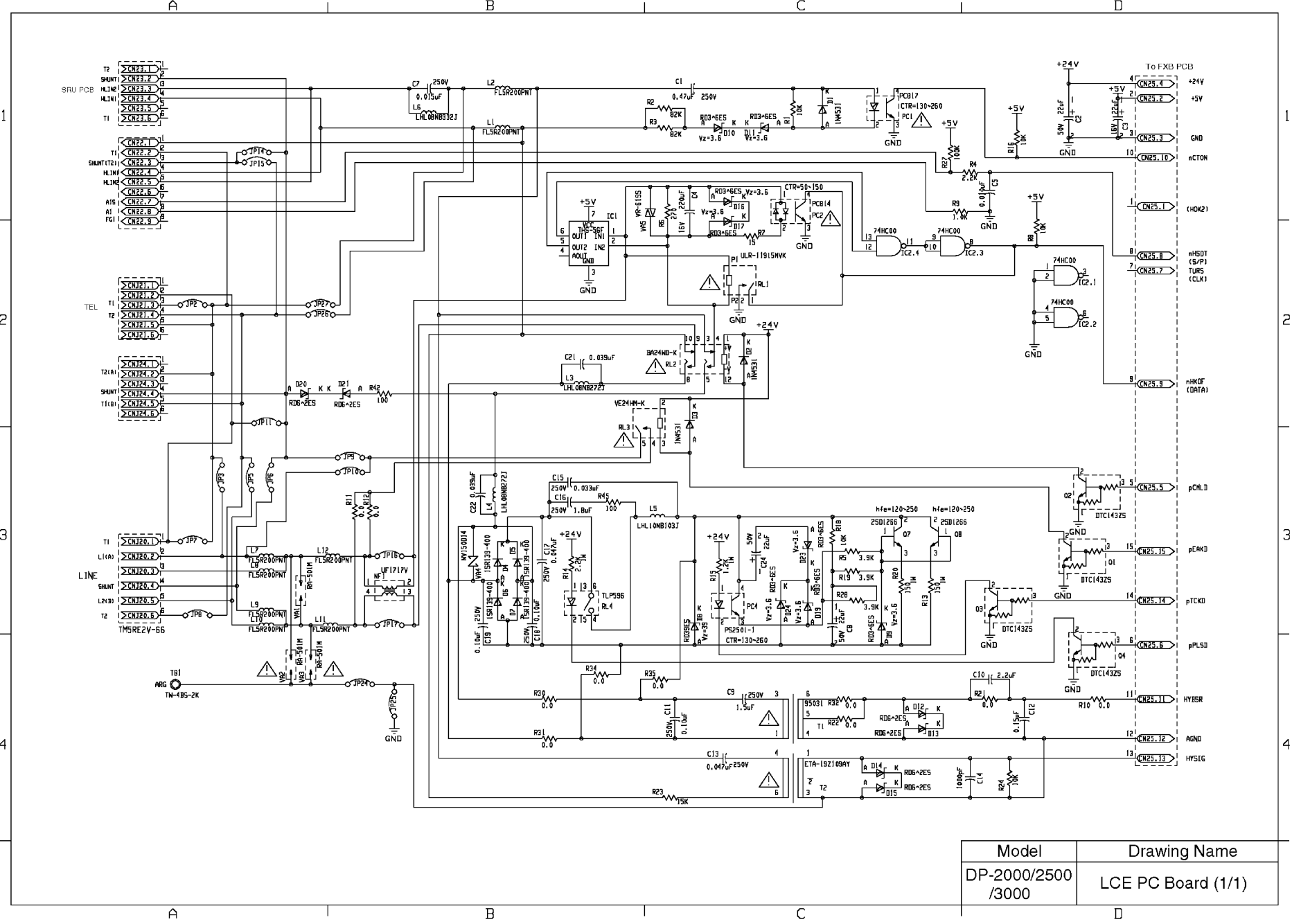
12.30. LANC PC Board



## 12.31. LCU PC Board

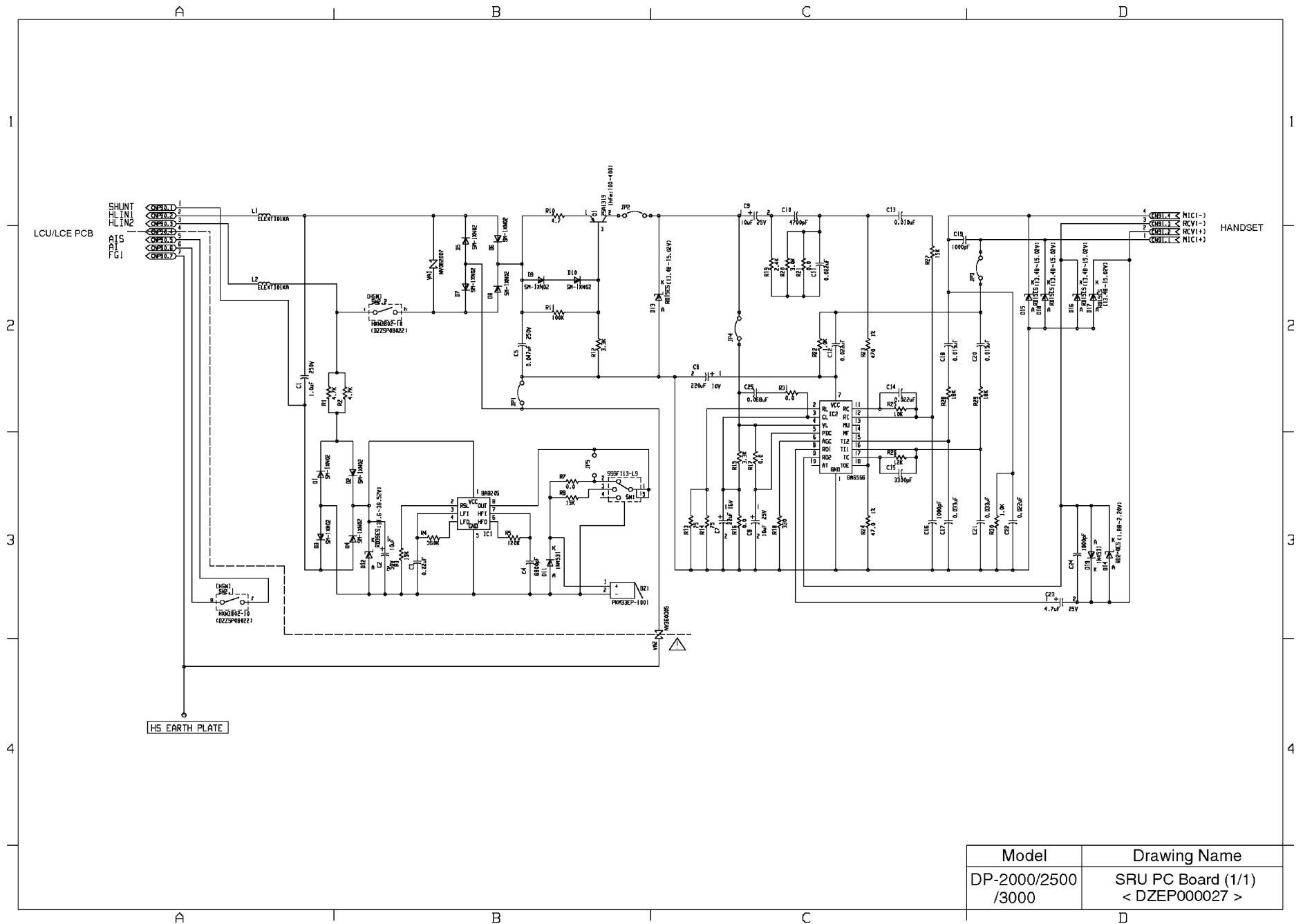


12.32. LCE PC Board

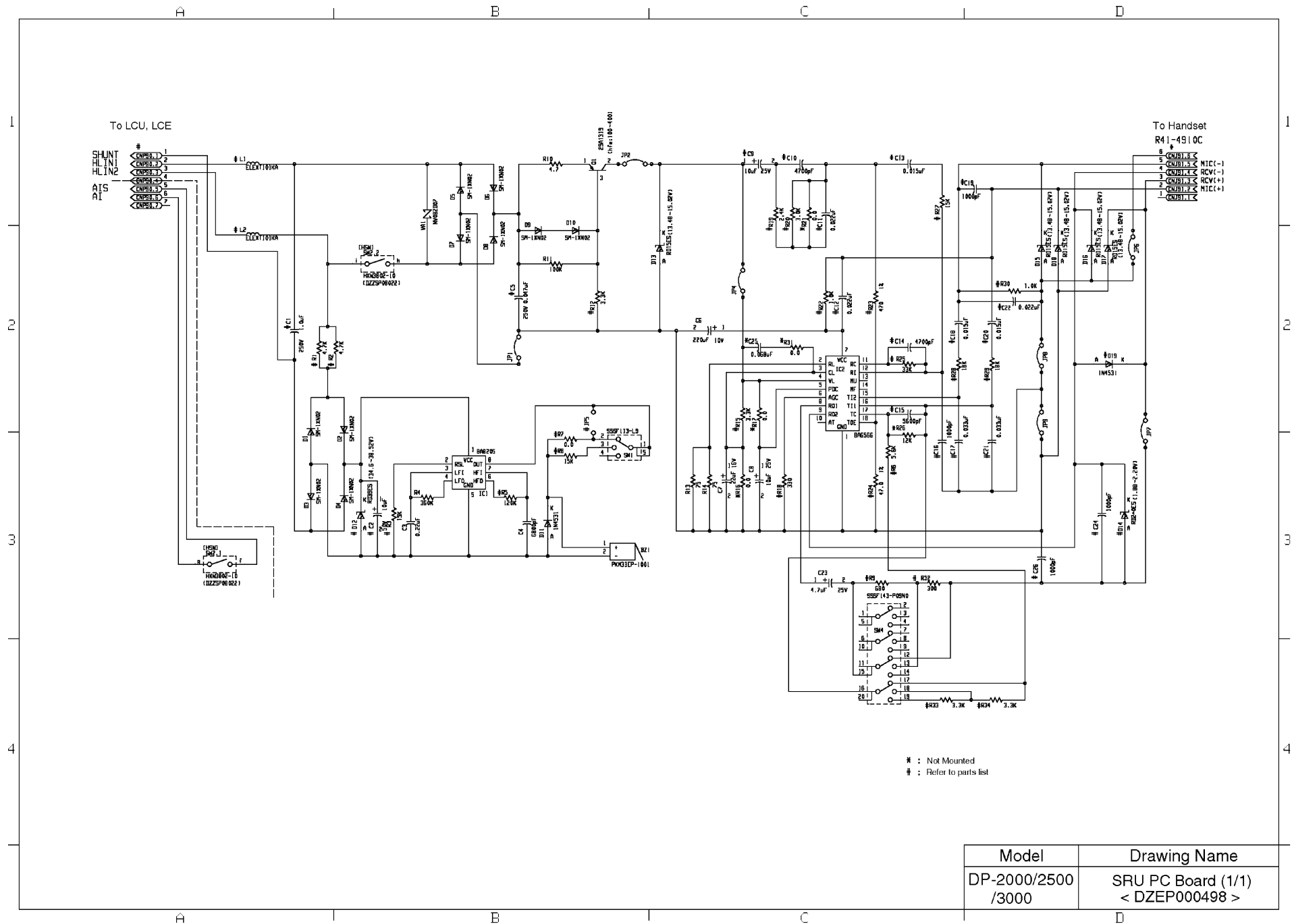


Model	Drawing Name
DP-2000/2500 /3000	LCE PC Board (1/1)

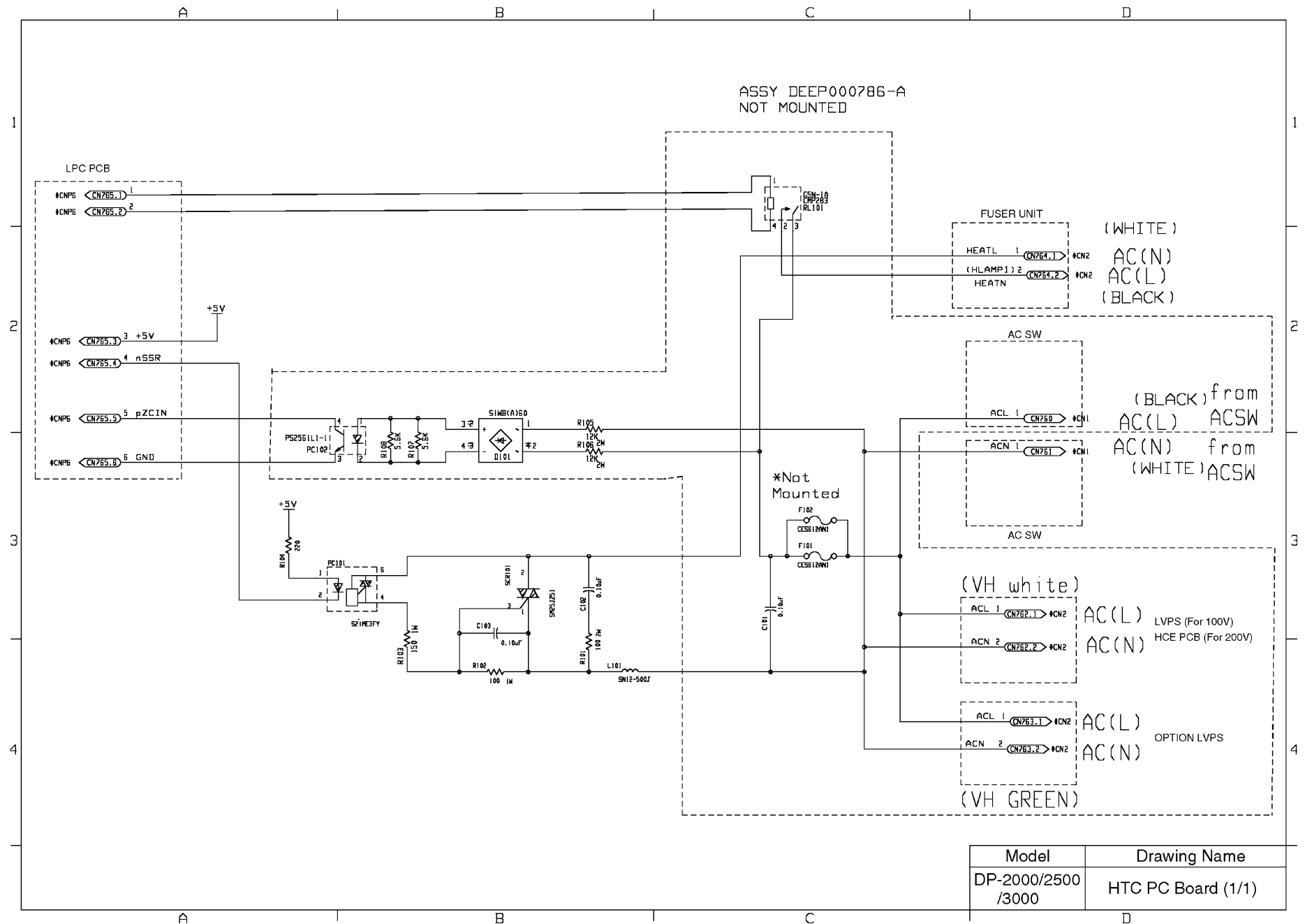
## 12.33. SRU PC Board



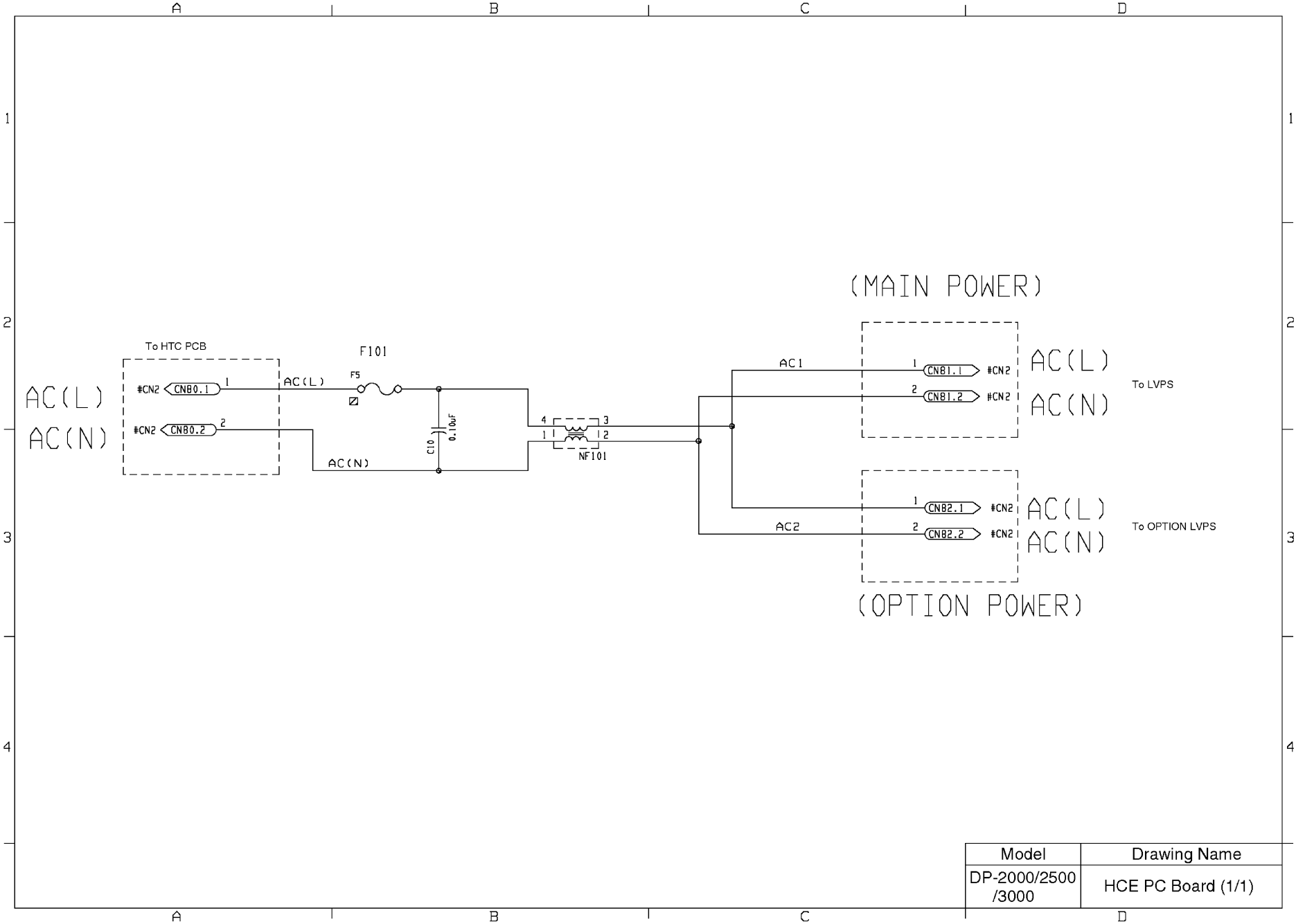
Model	Drawing Name
DP-2000/2500 /3000	SRU PC Board (1/1) < DZEP000027 >



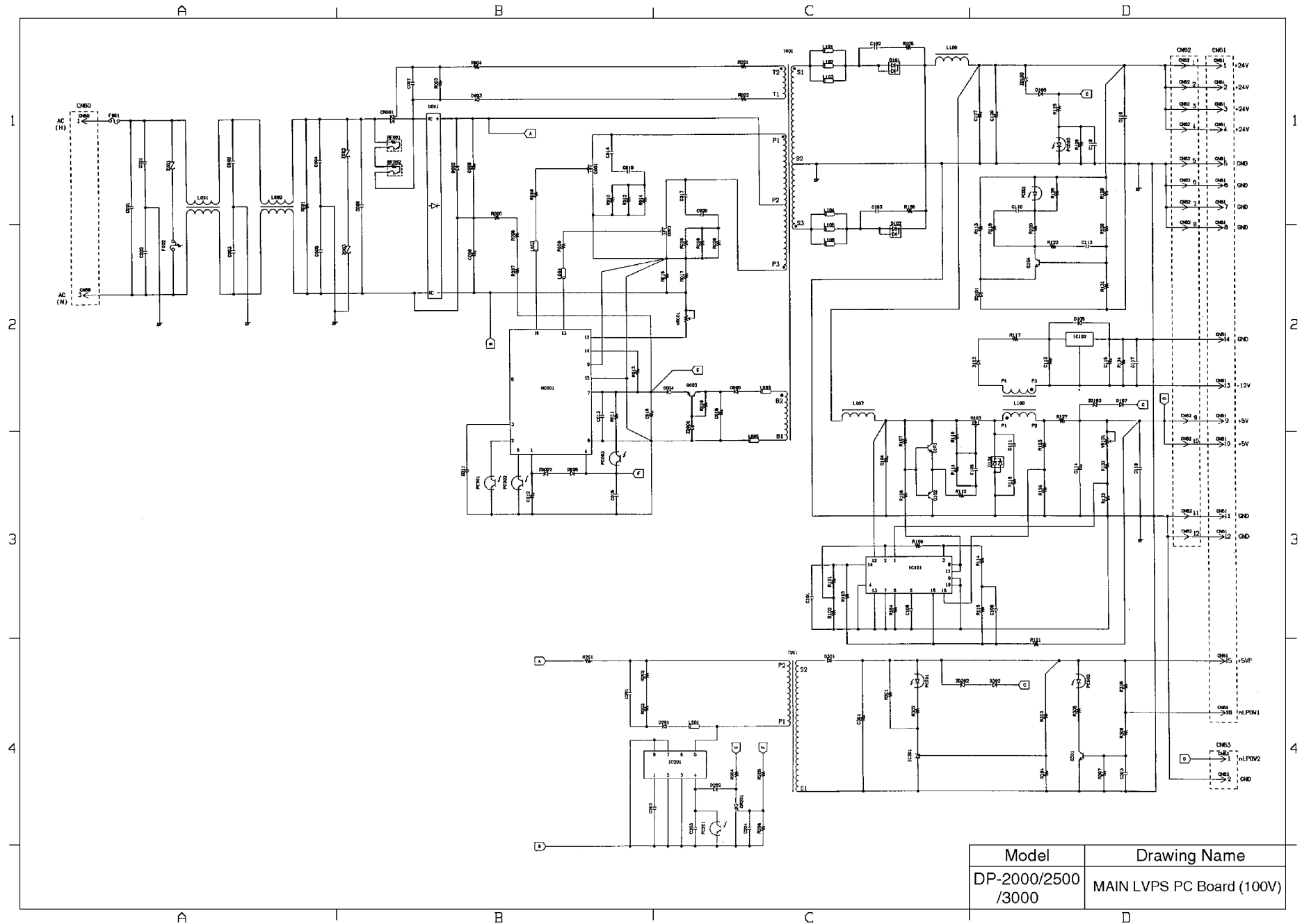
### 12.34. HTC PC Board



12.35. HCE PC Board

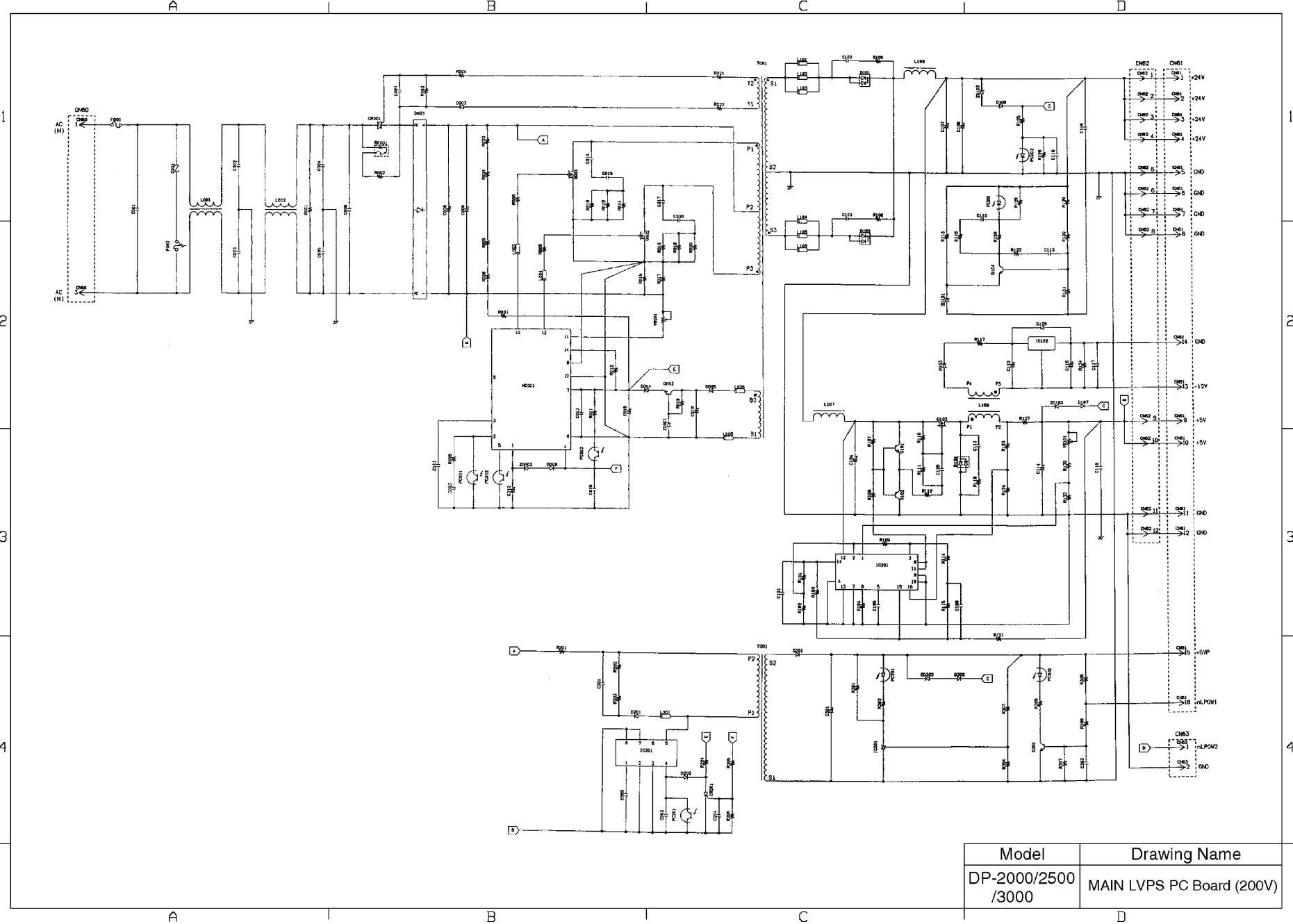


## 12.36. MAIN LVPS PC Board (100V)



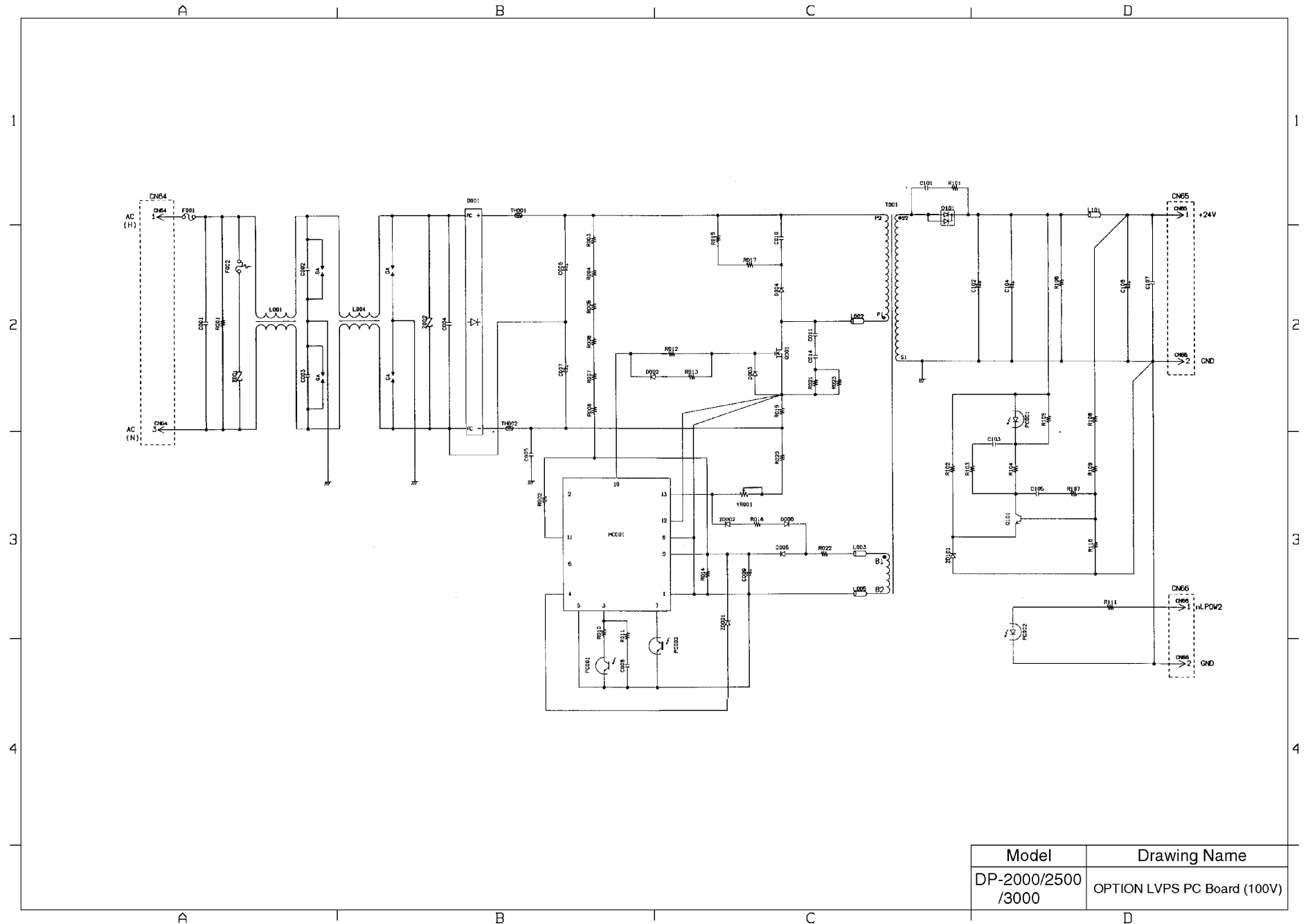


12.37. MAIN LVPS PC Board (200V)

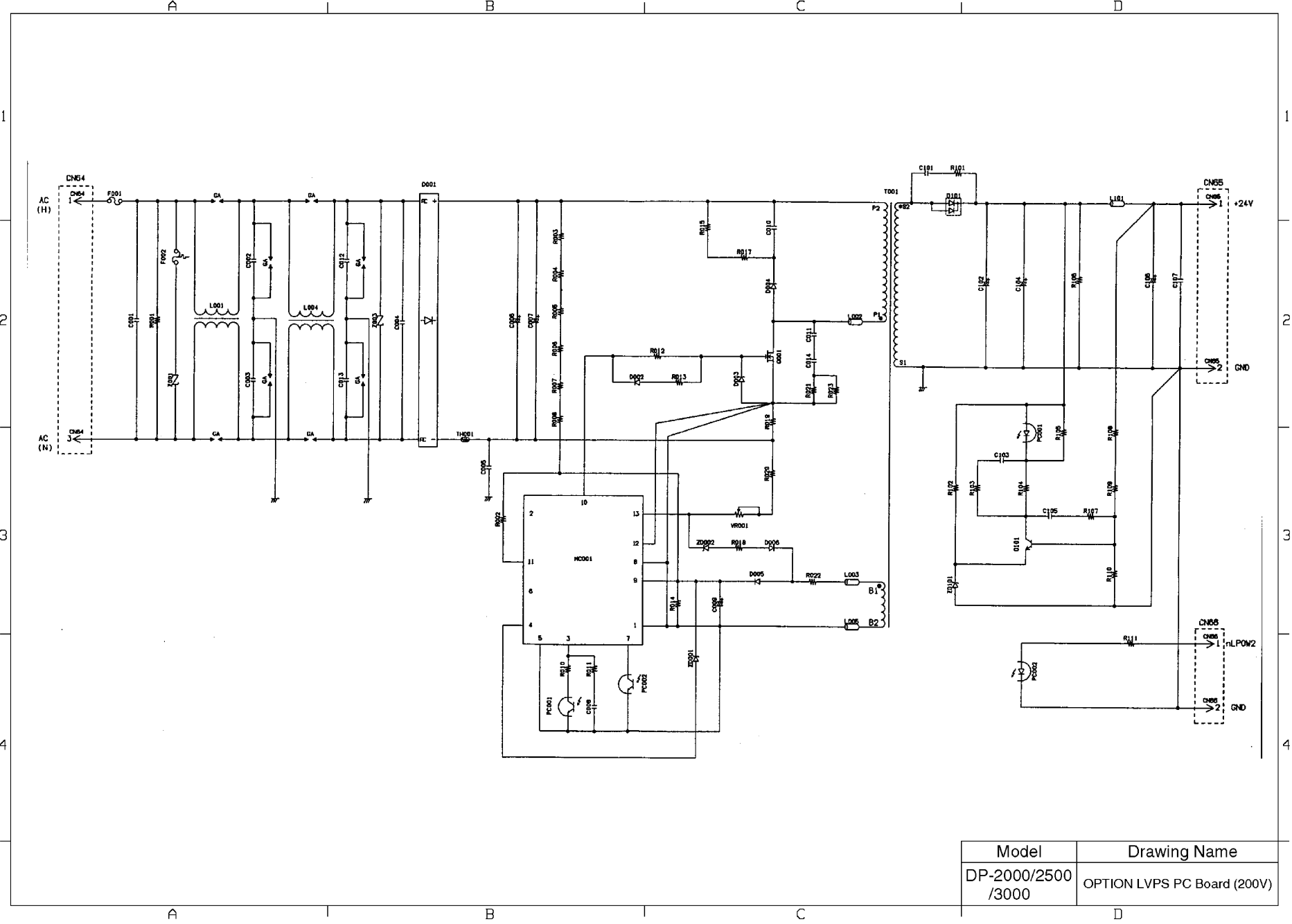


Model	Drawing Name
DP-2000/2500 /3000	MAIN LVPS PC Board (200V)

## 12.38. OPTION LVPS PC Board (100V)

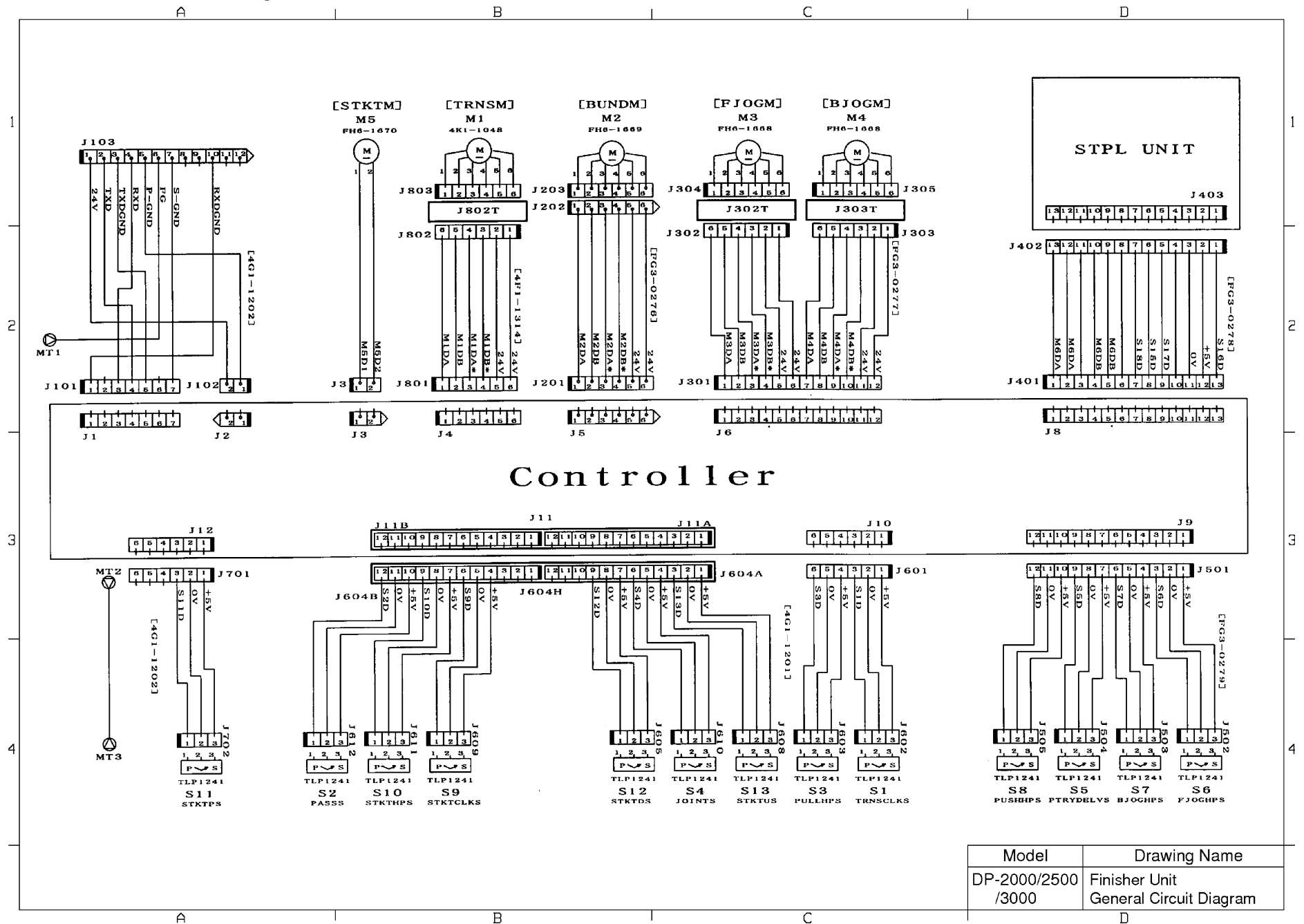


12.39. OPTION LVPS PC Board (200V)



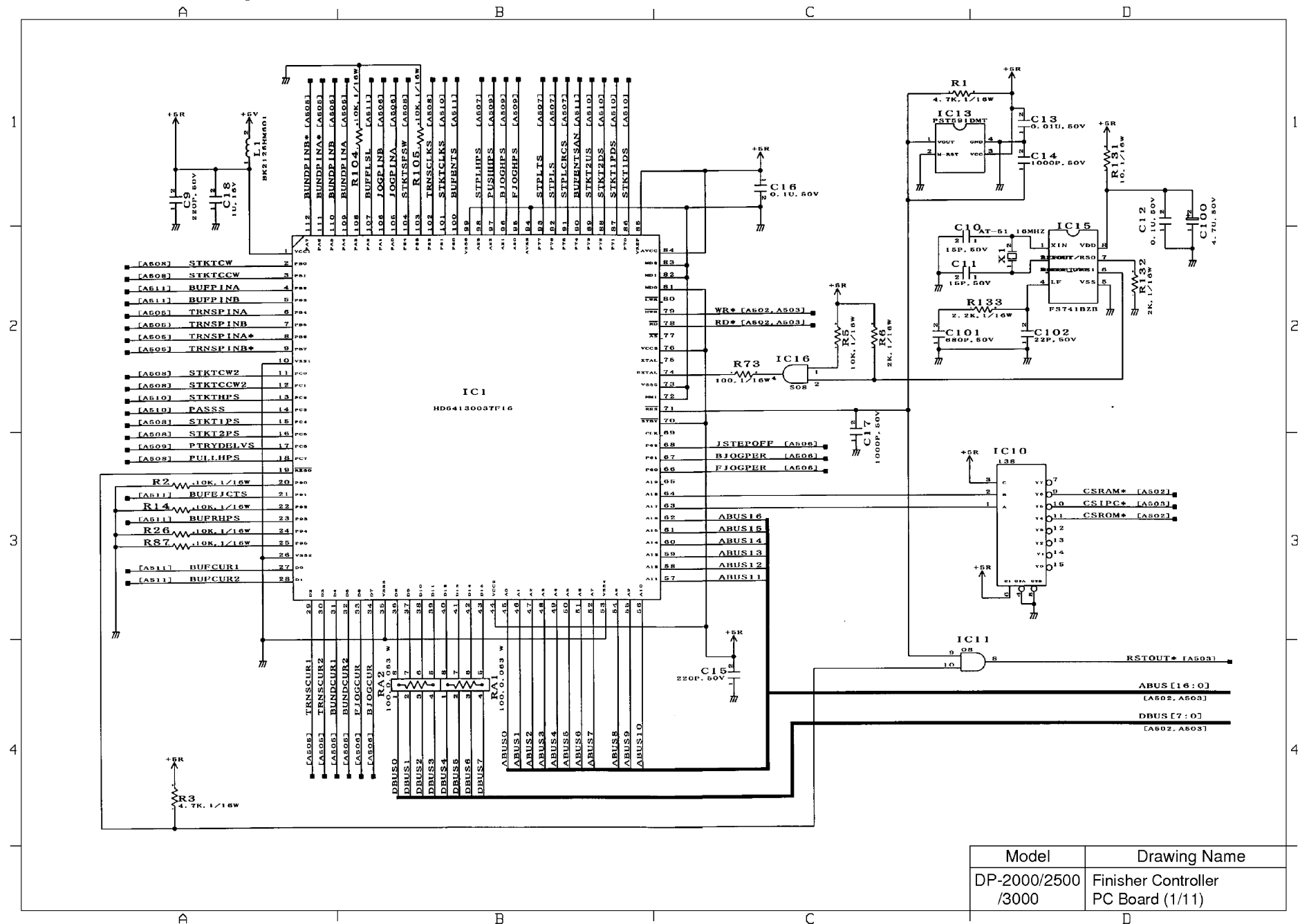
Model	Drawing Name
DP-2000/2500 /3000	OPTION LVPS PC Board (200V)

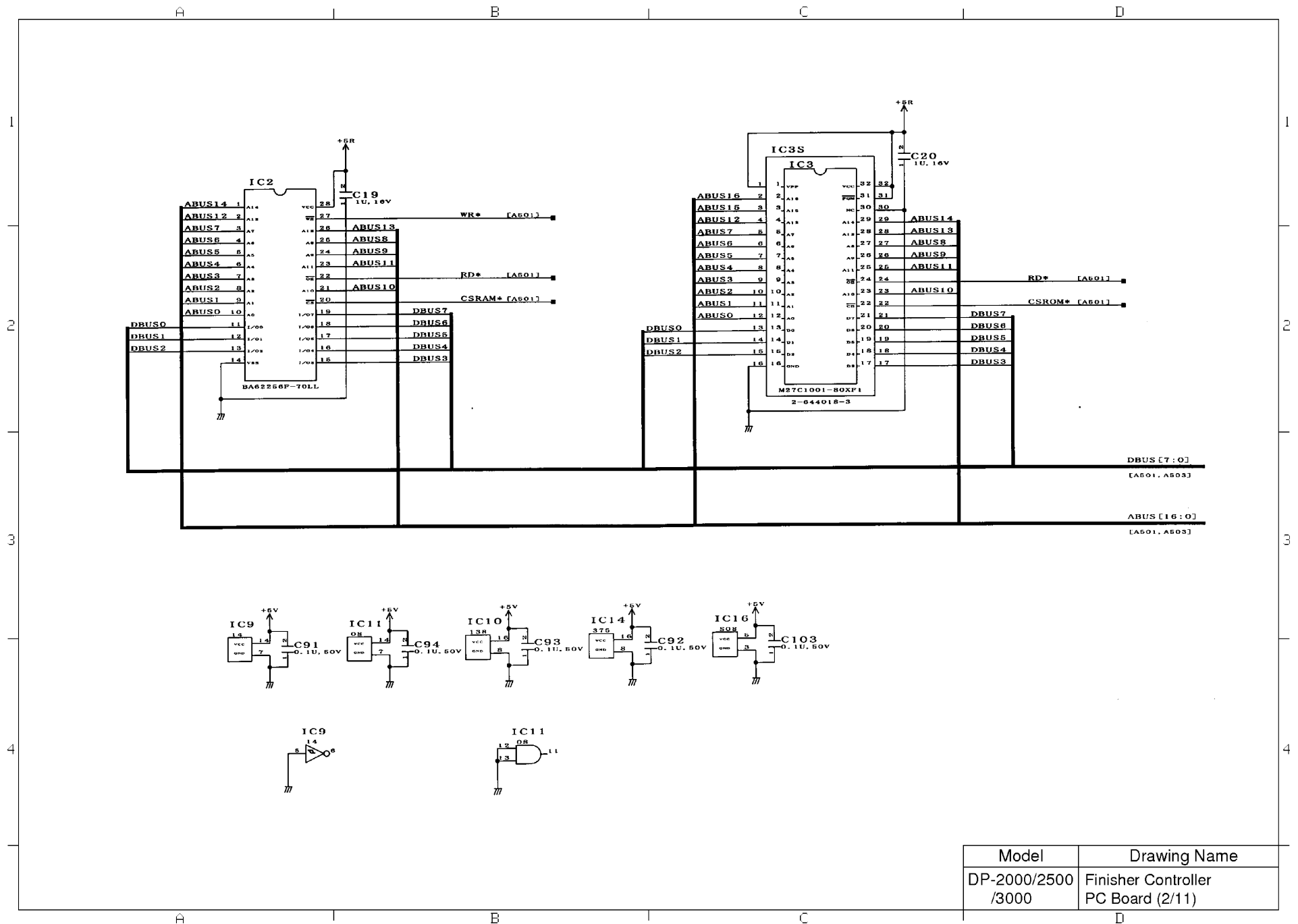
## 12.40. Finisher Unit General Circuit Diagram

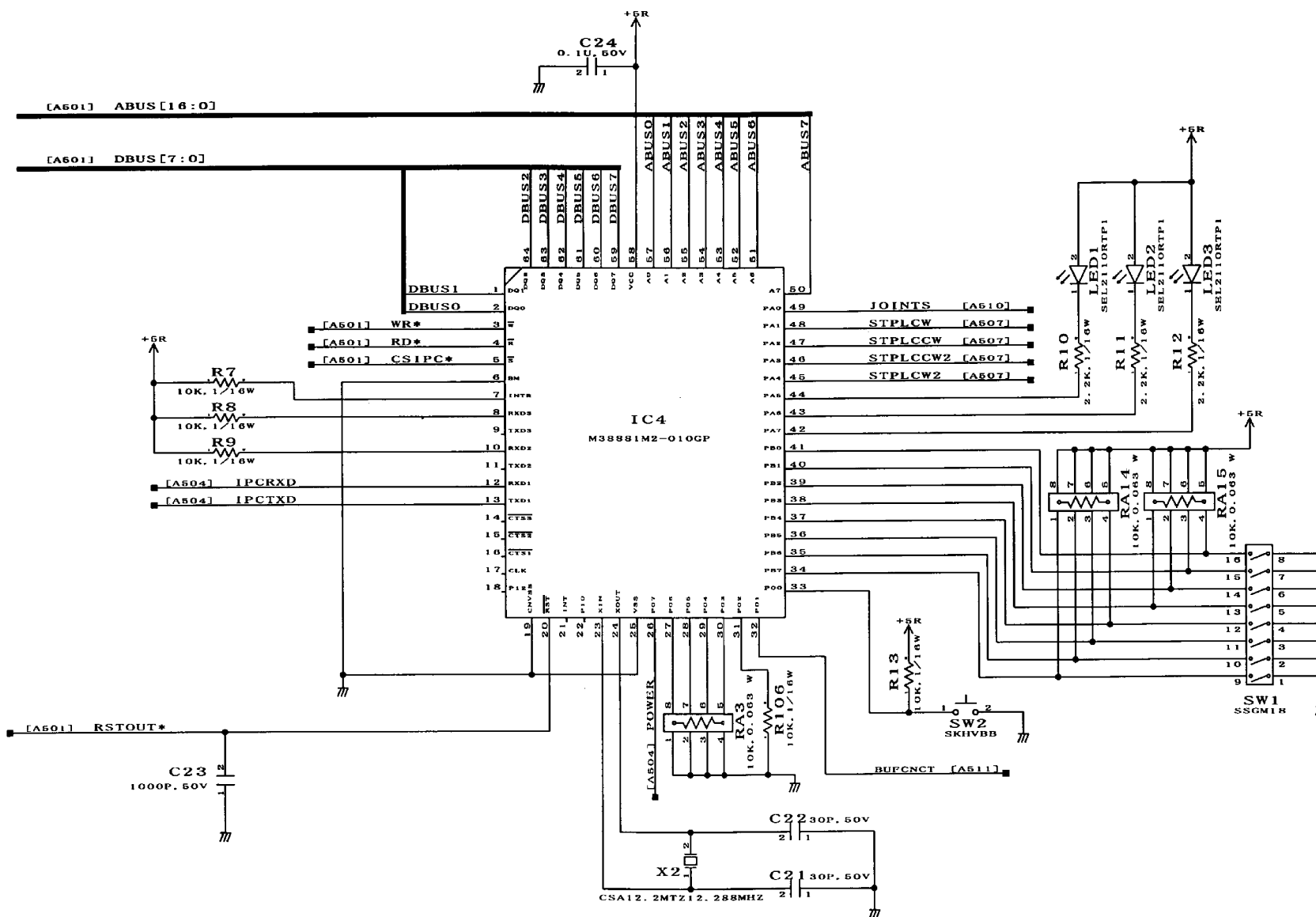


Model	Drawing Name
DP-2000/2500 /3000	Finisher Unit General Circuit Diagram

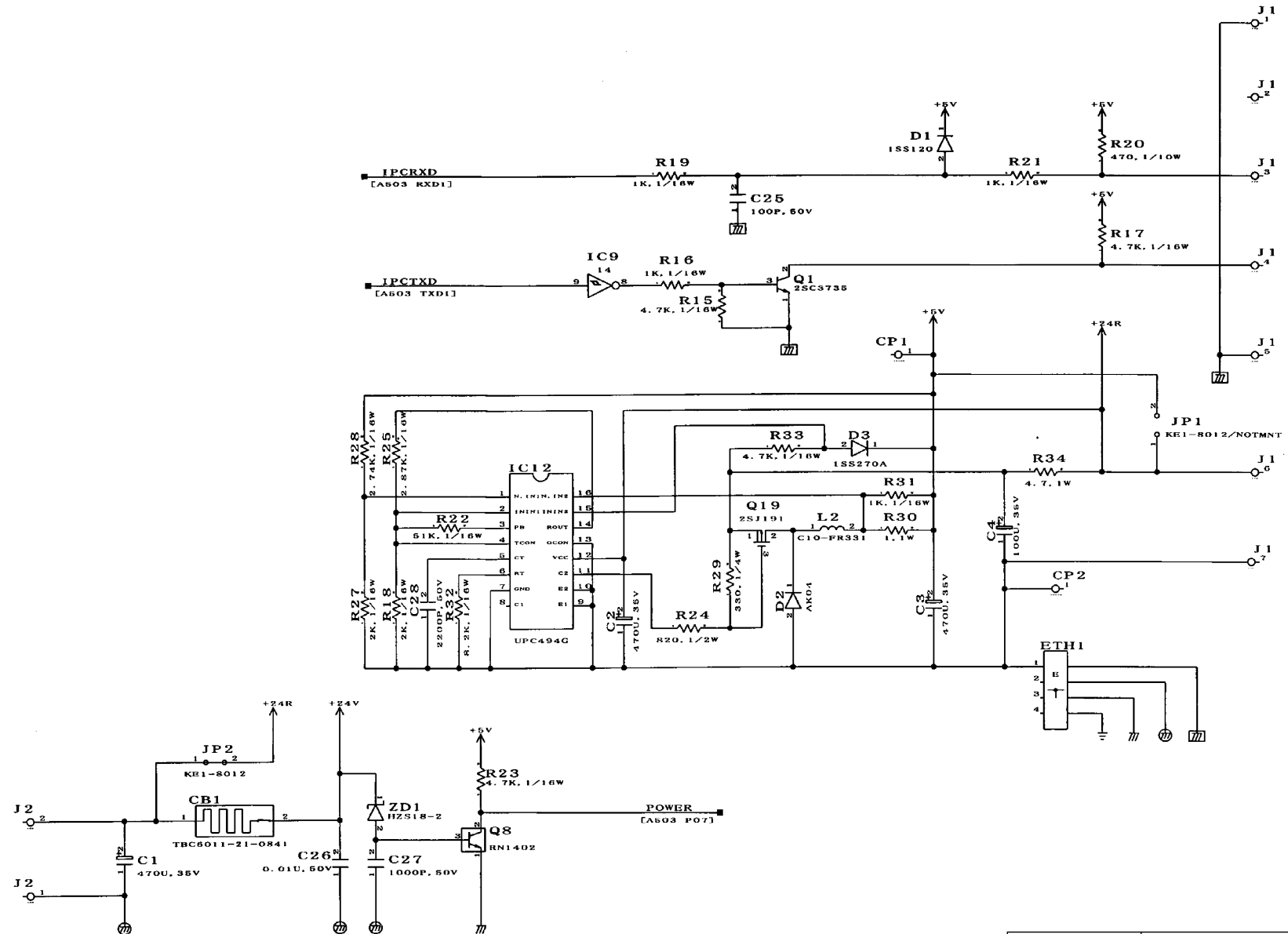
### 12.41. Finisher Controller Circuit Diagram





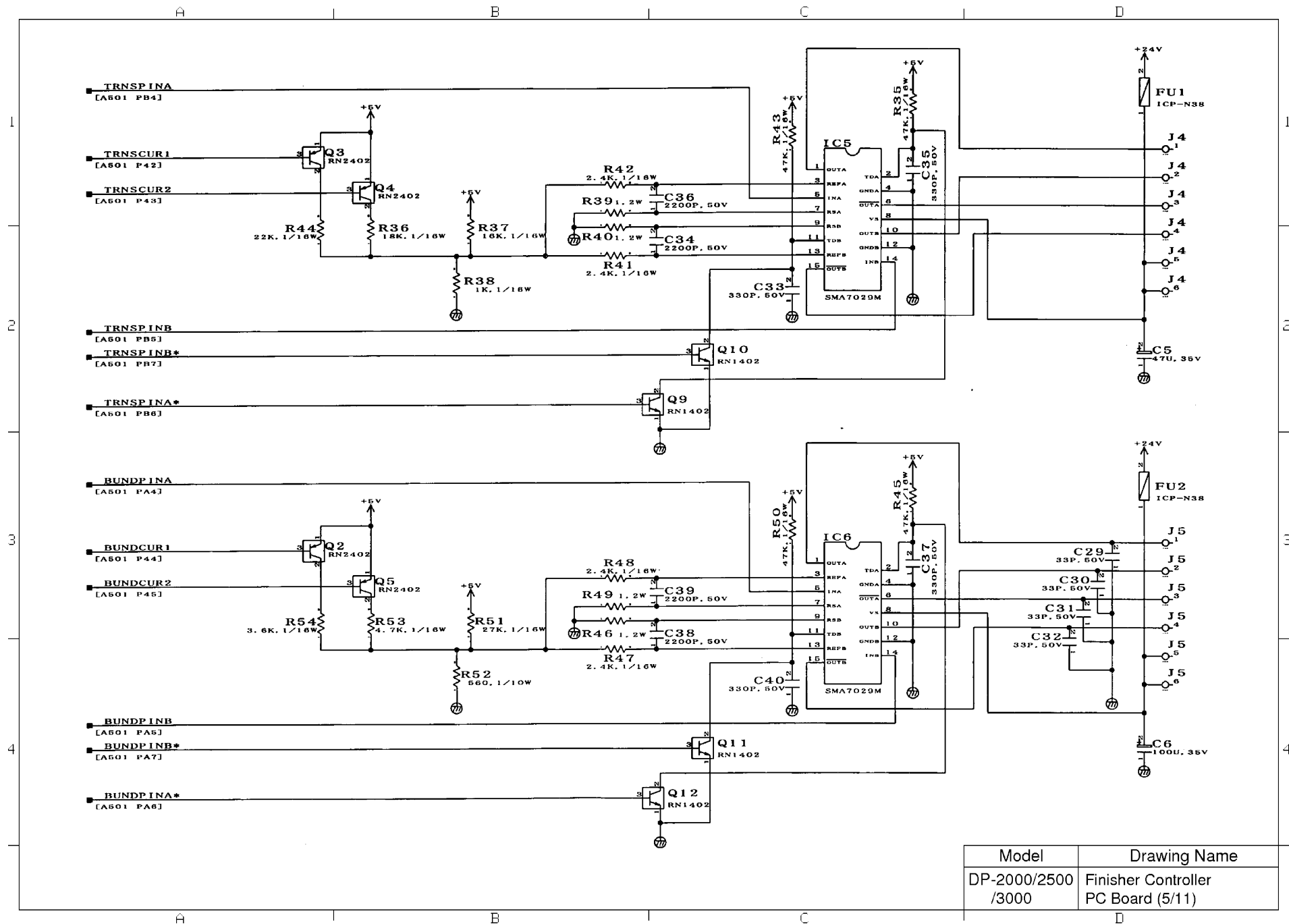


Model	Drawing Name
DP-2000/2500 /3000	Finisher Controller PC Board (3/11)



Model	Drawing Name
DP-2000/2500 /3000	Finisher Controller PC Board (4/11)





Model	Drawing Name
DP-2000/2500 /3000	Finisher Controller PC Board (5/11)

